

Becontree Estate Future Neighbourhoods

Report | 15.12.2022

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Future Neighbourhood Ambition

GLA Ambitions

The Future Neighbourhoods 2030 (FN2030) programme has taken a place-based approach, supporting the development of strategies which have at their centre the four overarching objectives of the Future Neighbourhood mission:

- To improve London's natural environment, improve air quality, and tackle the climate and ecological emergencies
- To promote and incentivise activities that sustain and grow London's green economy
- To prioritise interventions reducing health inequalities and social injustices
- To engage Londoners and businesses in their journey to become a zero-pollution and greener city.
- The strategies also support neighbourhoods to develop a pipeline of projects, ready for funding outside of this FN2030 programme, across the following key sectoral themes:
 - Retrofitting of homes, commercial and public buildings
 - Creating a decarbonised, smart and integrated energy system
 - Improving air quality and creating zero-emission zones
 - Developing climate-adapted, resilient and green neighbourhoods
 - Zero-waste and circular economy.

Community engagement is at the heart of the development of these strategies to help empower Londoners to accelerate their vision for transformative, long term change at the local level.

Decarbonising Schools



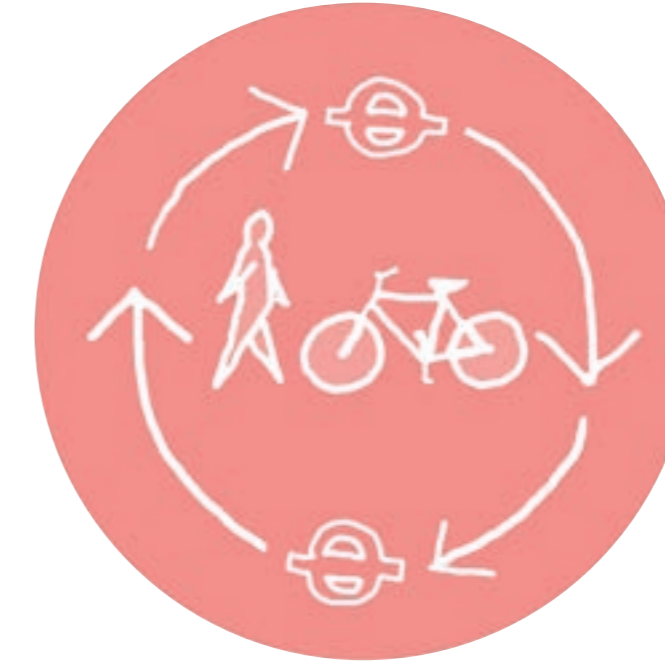
Work with communities and education providers to ensure schools are reducing carbon and working towards sustainable goals.

Retrofitting Homes



Incentivise retrofit, balance individualism and collectivism, ensure no residents live in fuel poverty and homes minimise their carbon emissions and support LBBB 2050 commitment. Support green jobs and local economy

Sustainable Transport



Citizen led co-created approach to the public realm, to ensure it is easy, safe and attractive for people of all ages and abilities to walk, cycle, scoot and use public transport. Support healthier living outcomes.

Nature Recovery Network



Provide nature rich open spaces that improve air quality, contribute to biodiversity, climate resilience and health and wellbeing.

Scope of Study

Assessing areas of focus and scope

The Future Neighbourhood is a holistic report looking at mitigating environmental challenges including the climate emergency and toxic air quality, whilst creating jobs, developing skills and supporting a just transition to a low carbon circular economy.

The Becontree Future Neighbourhoods strategy will centre on the first-built neighbourhood in Becontree Ward; an area to the north-west of the estate with a diversity of uses, buildings and spaces including over 2,900 terraced houses; three schools; seven places of worship; 112 amenity greens; proximity to Goodmayes Park and allotments.

The strategy will be used to mobilise participation and catalyse investment in tackling the climate emergency across the entire four square mile estate - also providing a new model for rethinking suburban/outer London for the future.

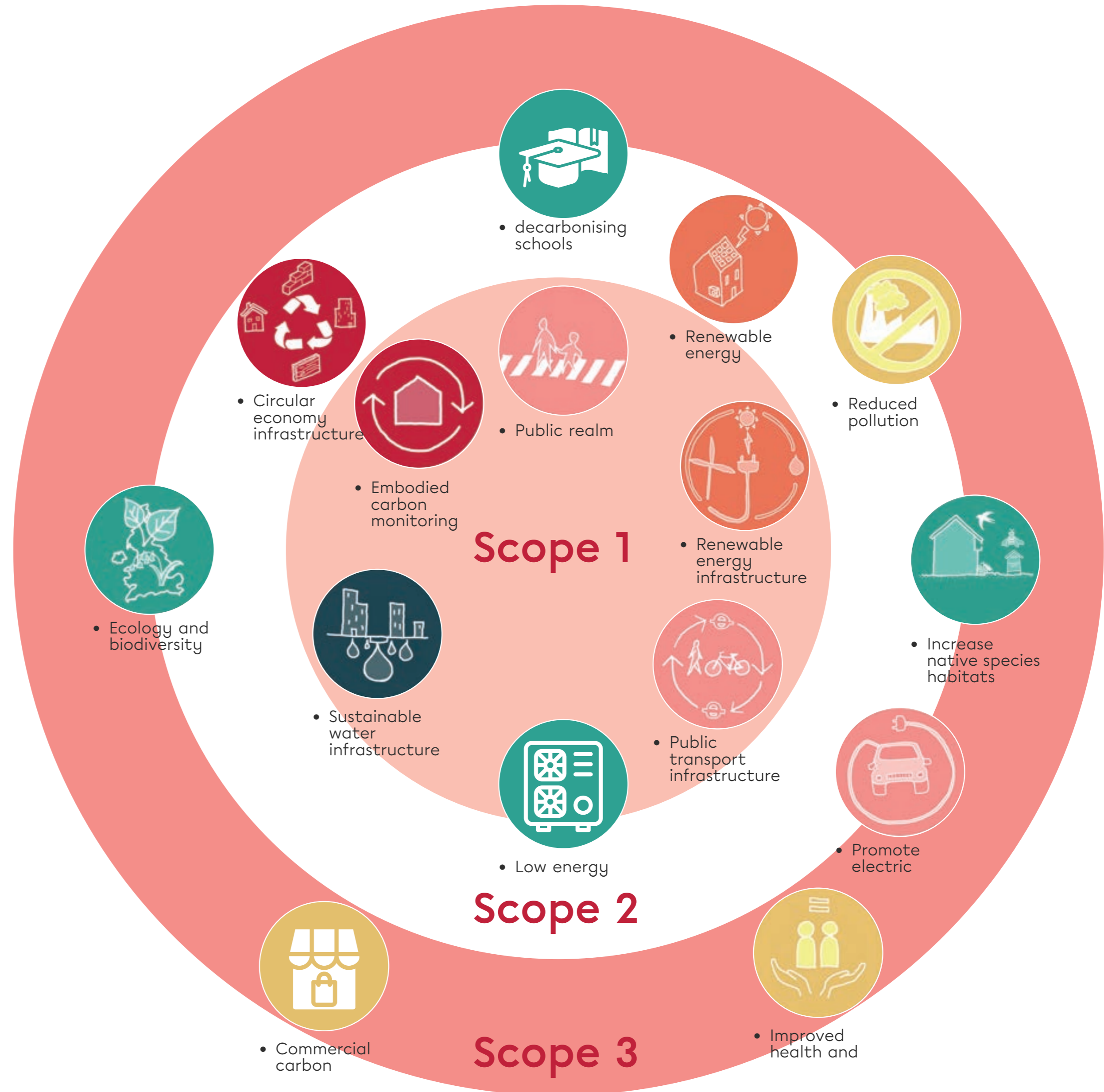
The strategy will focus on the following objectives:

- 1) Retrofitting homes
- 2) Working with schools to develop decarbonisation programmes
- 3) Delivering sustainable modes of transport
- 4) Creating a Nature Recovery Network to enhance biodiversity gain, encouraging sites for

Scope 1: Activities and areas Be First and LBBD are directly responsible for and can directly impact

Scope 2: Activities and emissions which Be First and LBBD can influence or which are part of a supply chain or organisation.

Scope 3: Indirect areas affected by residents which Be First and LBBD may be able to influence.



Setting the scene

Garden City Principles

Introduction

The Becontree Estate is the biggest council estate in the UK and the most ambitious of the country's housing estates; including four square miles of land, 85,000 residents (over 40% of the borough's population) and 29,000 homes.

The estate was built between 1921 and 1935 by the London County Council as a vision for the future for returning war heroes and working families living in poor quality, overcrowded housing in London's polluted East End. It was designed on Garden City principles with 13 types of house, large front and back gardens for everyone, amenity green spaces, Banjos (the precursor to the cul-de-sac) and 10% of land set aside for parks.

Garden Cities were underpinned by a strong vision developed by Ebenezer Howard, who in his seminal book of 1898, **To-morrow: A Peaceful Path to Real Reform**, described how 'the advantages of the most energetic and active town life, with all the beauty and delight of the country, may be secured in perfect combination'.

The Garden City Principles are a distillation of the key elements that have made the Garden City model of development so successful, re-imagined for the 21st Century, and should be viewed as indivisible.

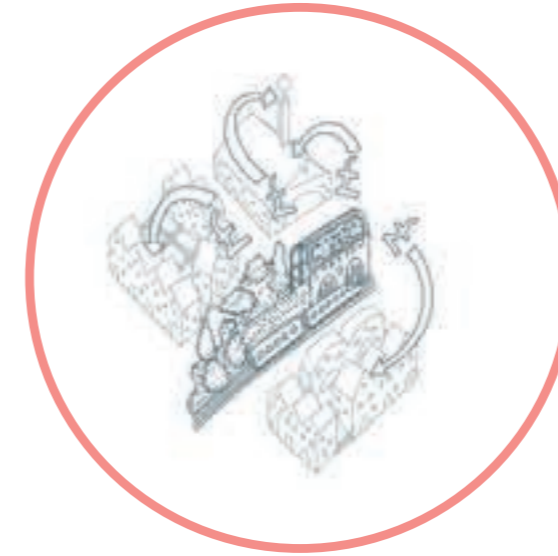
Garden Cities were founded on a series of principles developed by Ebenezer Howard which remain relevant today and are shown on the right.



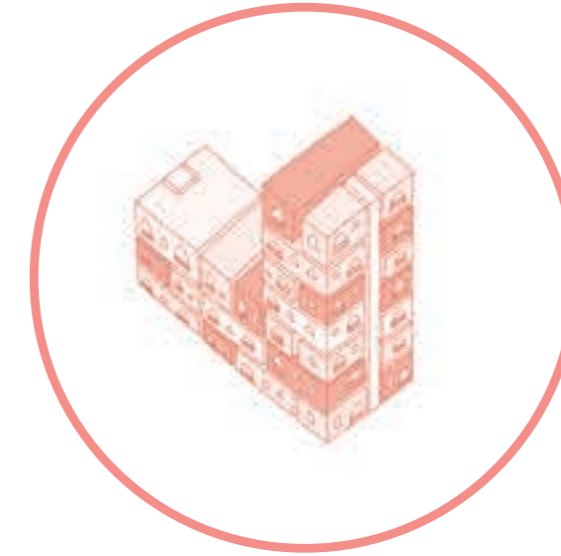
Community Led:
strong vision, leadership and community engagement



Community Owned:
Community ownership of land and long-term stewardship of assets



Land Value Capture:
economic value capture for the benefit of the community.



Mixed Tenure:
homes and housing types that are affordable for ordinary people



Beauty:
Beautifully and imaginatively designed homes with gardens in healthy communities



Local Employment:
A strong local jobs offer in the Garden City itself and within easy commuting distance



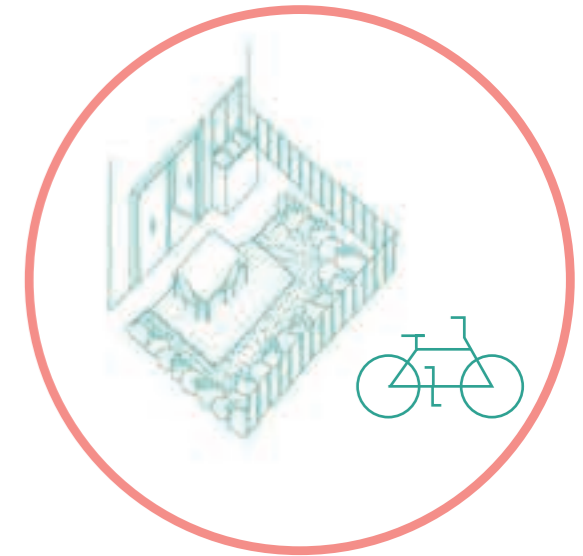
Green Space:
Well connected and biodiversity-rich public parks; high quality gardens; tree-lined streets; and open spaces



Self Sufficiency:
Opportunities for residents to grow their own food, including allotments



Culture and Leisure:
Strong cultural, recreational and shopping facilities in walkable neighbourhood.



Transport:
Integrated and accessible transport systems, with walking, cycling and public transport



History of the Becontree

1921 - 1923



The building of Becontree begins primarily in its North-Western corner connecting with the town of Ilford, over Goodmayes Park, and through the ancient route of Green Lane.

1924 - 1926



The characteristic boulevards of Vallance and Becontree avenues are built, as well as Vallance Circus. This period also sees the development of the local centres at either end of Becontree avenue starting to create a more complete town, and moving steadily away from Ilford's influence.

1927 - 1929



The North-Western and South-Eastern areas are joined up, due to a large acceleration in delivery facilitated by the opening of 2 new stations along the existing line.

1929 - 1931



Becontree Station (originally Gale Street) opens, allowing the final piece in the puzzle to start to take shape. Mayesbrook Park is also fully defined, forming a hard boarder against the town of Barking to the West.

1932 - 1935



The economic hardships of the 30s, whilst not slowing the completion of the estate, can be noted in the layout. Longer, straighter streets with complete terraces become more common place. Churches are fewer and more modest and quality of the building stock declines.



Tree Lined Avenues



Green Corners



Banjos



Characterful Features



D Ends

Regional and Borough context: socio-economic

Becontree's socio-economic profile is in many ways similar to other areas of the borough; there are challenges at every level. However the position of the estate at the heart of the borough - both geographically and physically - gives it a unique opportunity for replicability throughout the borough and beyond.

There are a number of specific problems that the Becontree faces, including:

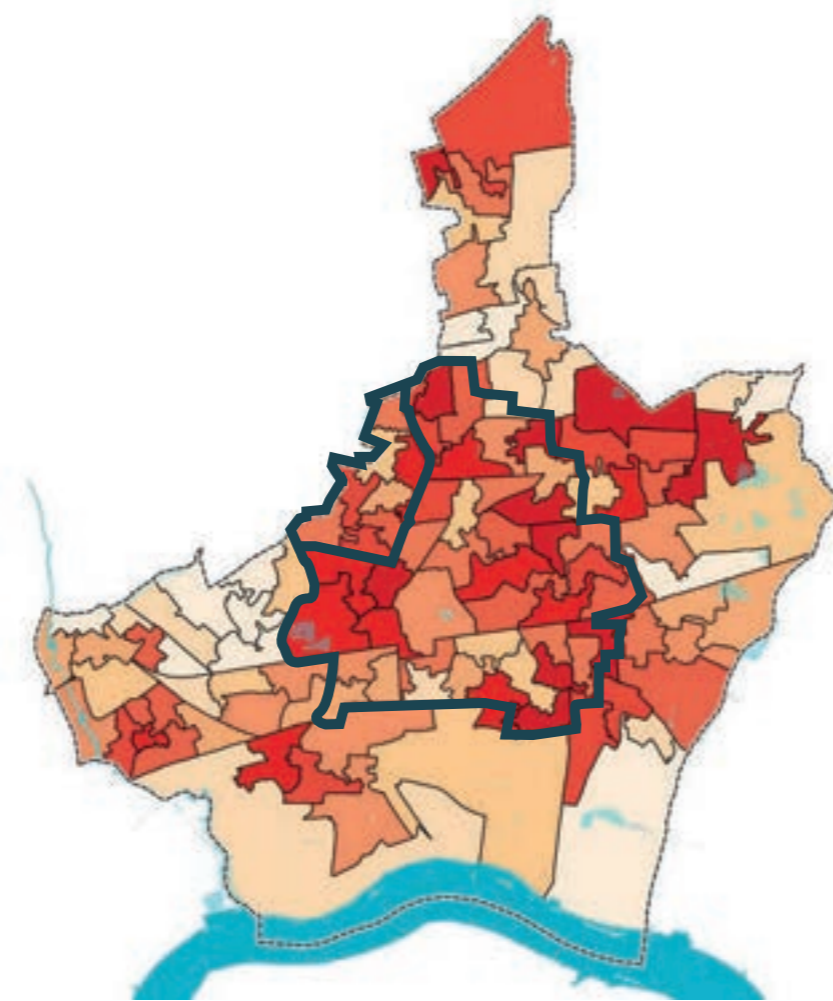
- Endemic Health Issues - particularly childhood obesity
- Low Education Outcomes
- Lack of Employment Opportunities
- Lack of access to open space

The Becontree Estate has some of the highest rates of fuel poverty in the borough.

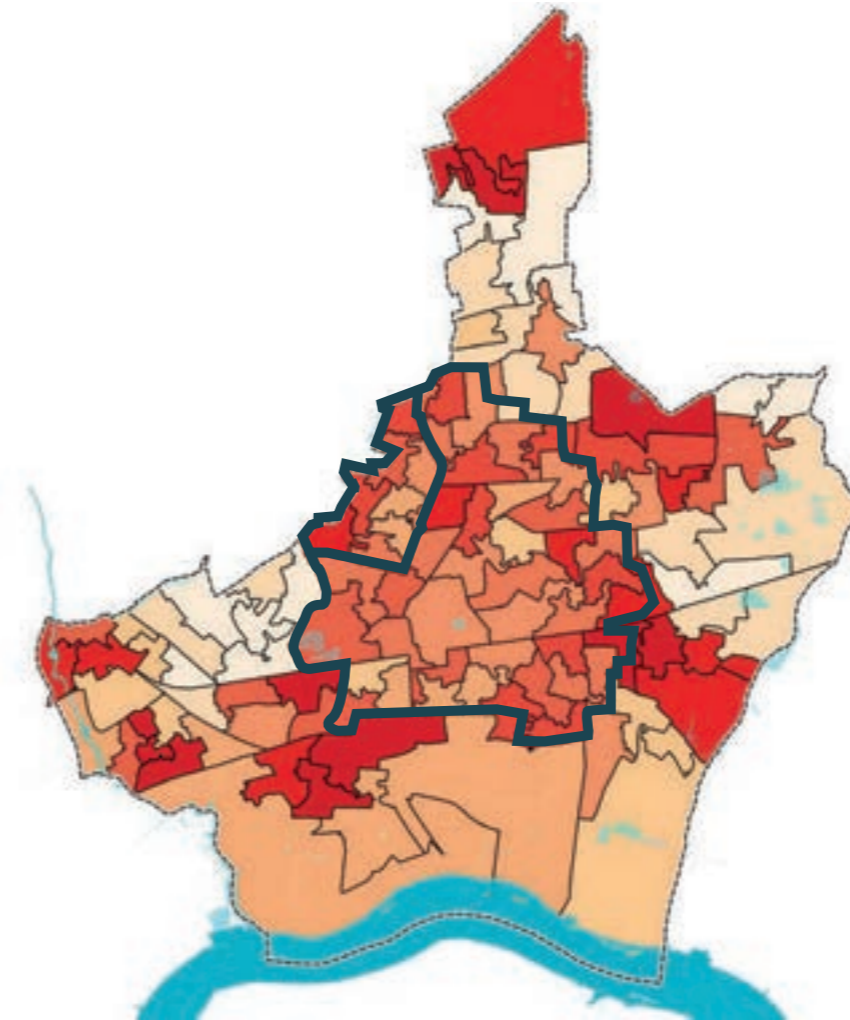
- The borough has a variety of EPC ratings but performance is low and often below EPC D
- EPC ratings are consistently low, between 8-34% of homes within the estate have an EPC rating of E or lower.
- Fuel poverty rates within the estate are consistently high, between 19 and 27% of homes.

Key

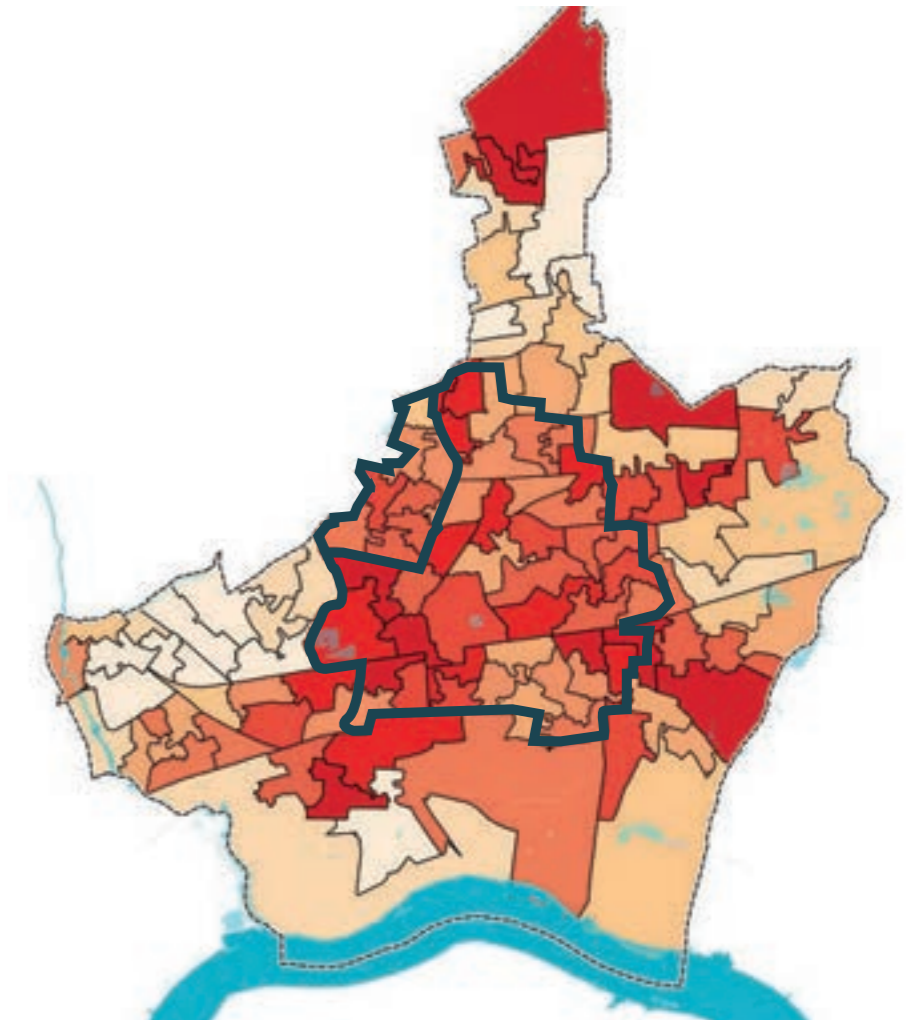
- Borough boundary
- ▭ Becontree boundary
- Very High Rates
- High Rates
- Medium Rates
- Low Rates
- Very Low Rates



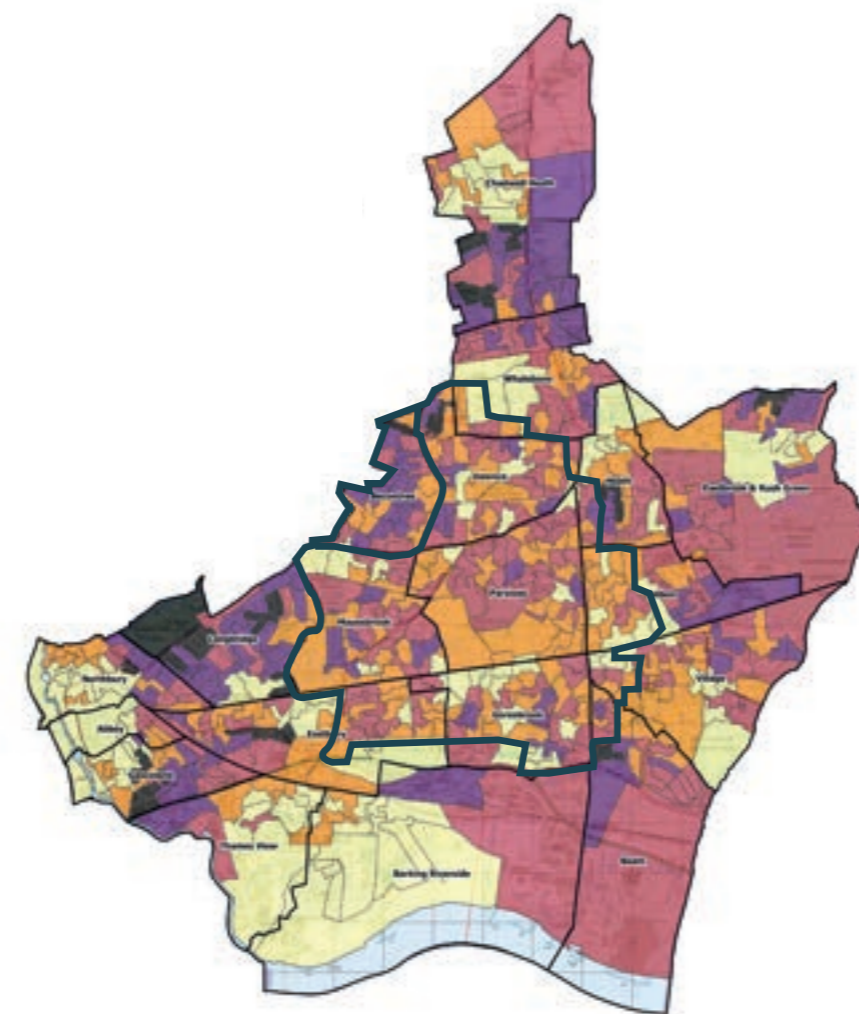
Health Outcomes



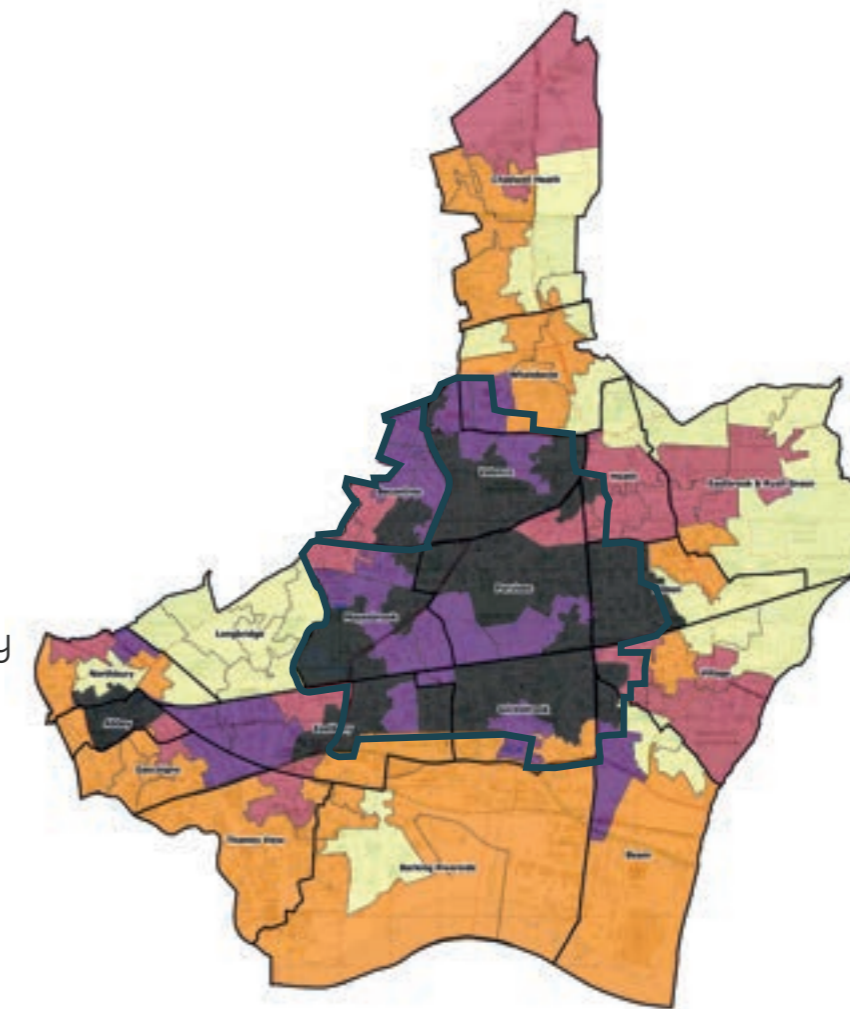
Income



Education, skills and training



- ### Key
- % of homes with EPC rating E-G
- ▭ Becontree Ward boundary
 - ▭ Becontree Estate boundary
 - ▭ boundary
 - less than 8%
 - 8%-15%
 - 15%-23%
 - 23%-34%



- ### Key
- % of homes in fuel poverty per LSOA
- ▭ Borough Ward boundary
 - ▭ Becontree Estate boundary
 - 6.3% to 12.5%
 - 12.5%-16.3%
 - 16.3%-19.9%
 - 19.9%-23.4%
 - 23.4%-27.7%



Becontree Today

Introduction

Once the largest estate in the world, known as the homes for heroes and also home to the Banjos. A place of pebbledash, crazy paving and palm trees. The Becontree is an eclectic estate with a clear identity of one that was once relentlessly homogeneous, and now ingeniously unique.

The Becontree estate's environment has degenerated dramatically through historic underinvestment, mass car use, and mass adaptation of houses and space as a consequence of Right to Buy and Permitted Development Rights (originally 100% LCC-owned, now 47% of houses are owned-occupied, 23% privately rented, 30% council-owned).

After a year of centenary celebrations, creation of activities, play spaces and monuments, artworks, handbooks and reinvented spaces that brought the community together, we intend to work collaboratively to build upon the great work of 2021 towards the development of a co-designed future neighbourhood, code and enhanced community for Becontree.



Characterful Features



Green Corners



Mix of housing types



Dropped Kerbs on streets



Small Businesses



Neglected public realm



Tree Lined Avenues



Pedestrian Links



Tree Lined Avenues

The Ward

Introduction

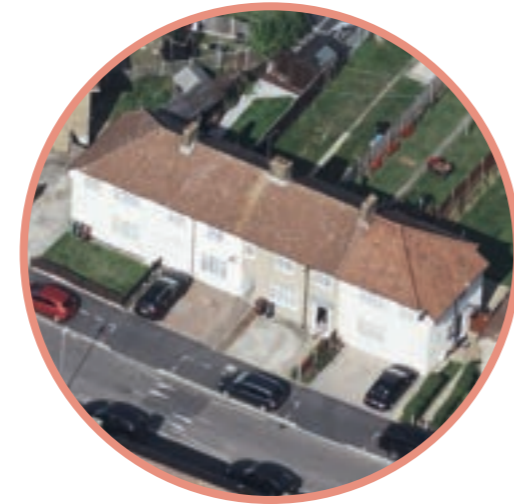
The first phases of the Becontree in what is now the Becontree Ward were constructed between 1920-22. The majority of this portion of Becontree is made up of the “D” type series of homes. The “D” type had a core plan of four habitable rooms, with three bedrooms and a bathroom upstairs, and a living room, scullery and WC downstairs.

The main way difference was expressed in the “D” type was through facade treatment, materiality and roof pitches. Depending on the section they are used in, they have modifications and adaptations to fit the street context and to create distinct moments of character in different parts of the estate.

The layout of the ward was typical of the early suburban city model, with wide curved streets, green corners with rows of cottages.



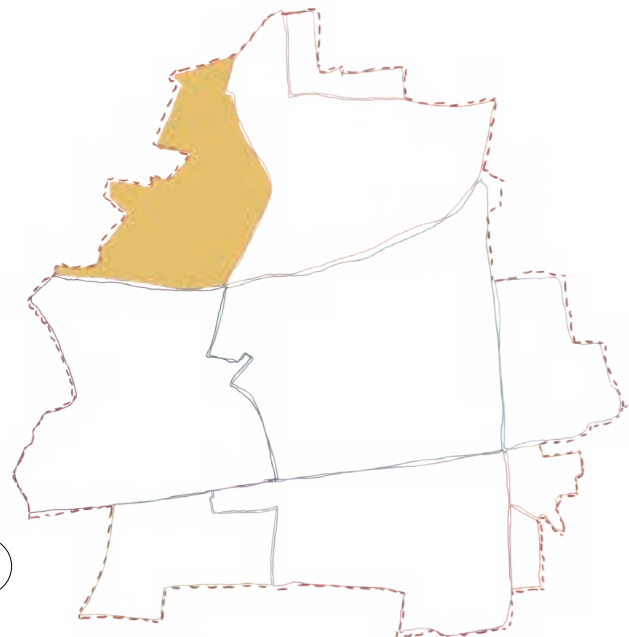
Green Corners



Terrace runs of cottages



Curved roads



Opposite: Aerial View of Becontree Ward



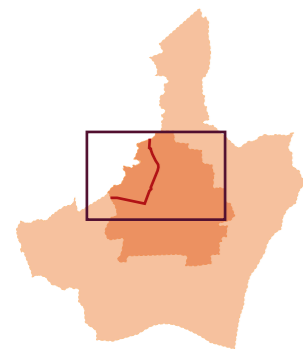
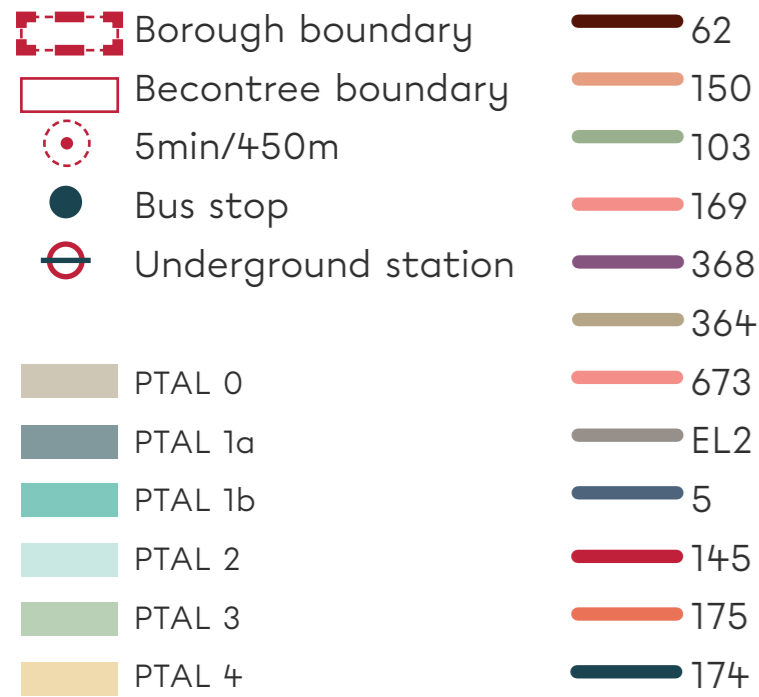
Movement

Observations

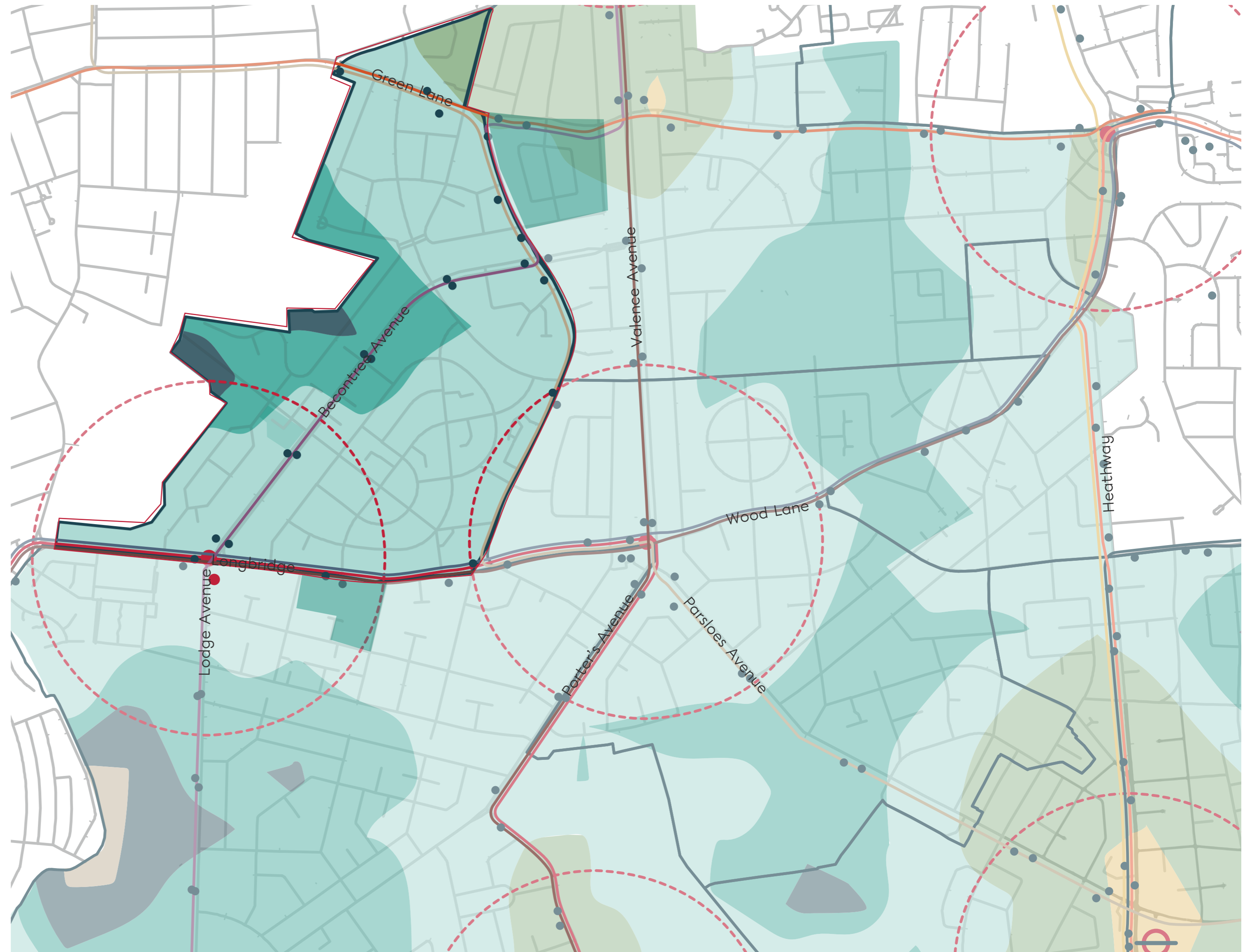
In assessing the transport infrastructure and PTAL opportunities within each neighbourhood, it is apparent that infrequent bus services, lack of cycling infrastructure and a desirable walking environment has created high levels of car dominance and ownership.

As car ownership has grown incrementally, the number of paved front gardens and dropped kerbs has also grown. This has resulted in a loss of habitat and increased surface water run off within the area. A considerable number of cul-de-sacs and dead end roads mean that the main link routes through the area are often congested.

Key



Opposite: PTAL and transport infrastructure



Ward Density

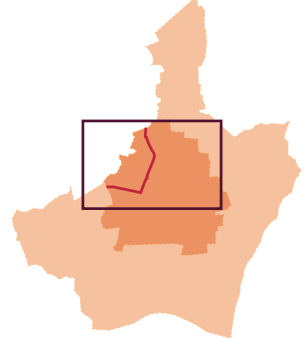
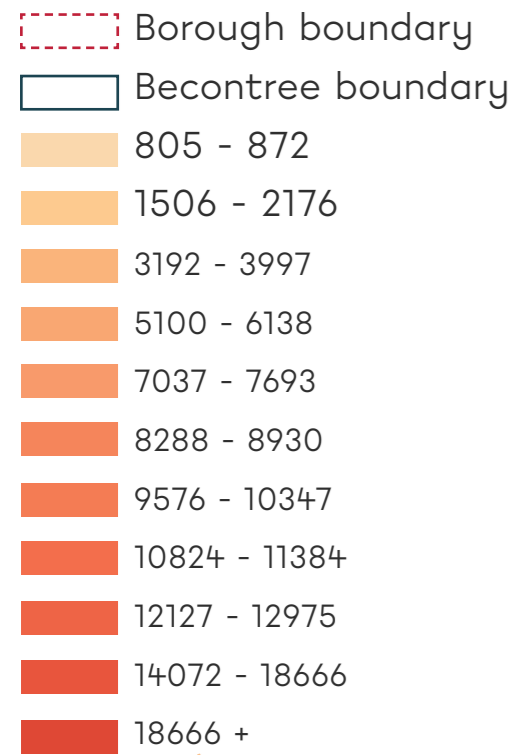
Observations

The grain and urban typology of Becontree has both a high degree of uniformity and a wide variety of street types.

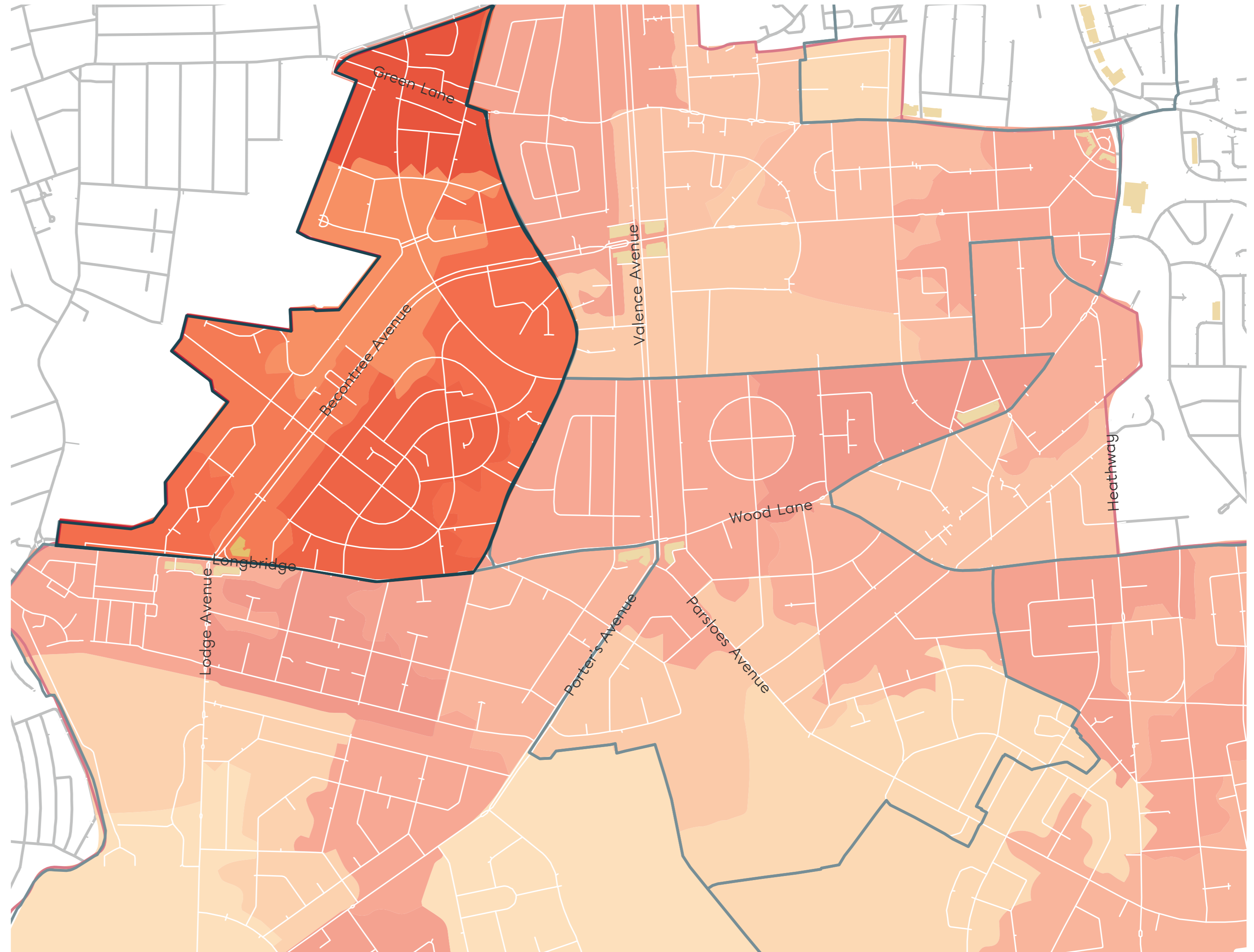
The blocks appear as entirely suburban, but are applied in a number of contrasting ways to create richness.

- Distinctive grain when compared to its surroundings
- Presence of organic forms contrasts with late Victorian streets to the West
- A wide variety of streets and block types underpinned by regularity

Key



Opposite: Map showing density of local area



Neighbourhood Schools









Low Carbon Retrofit

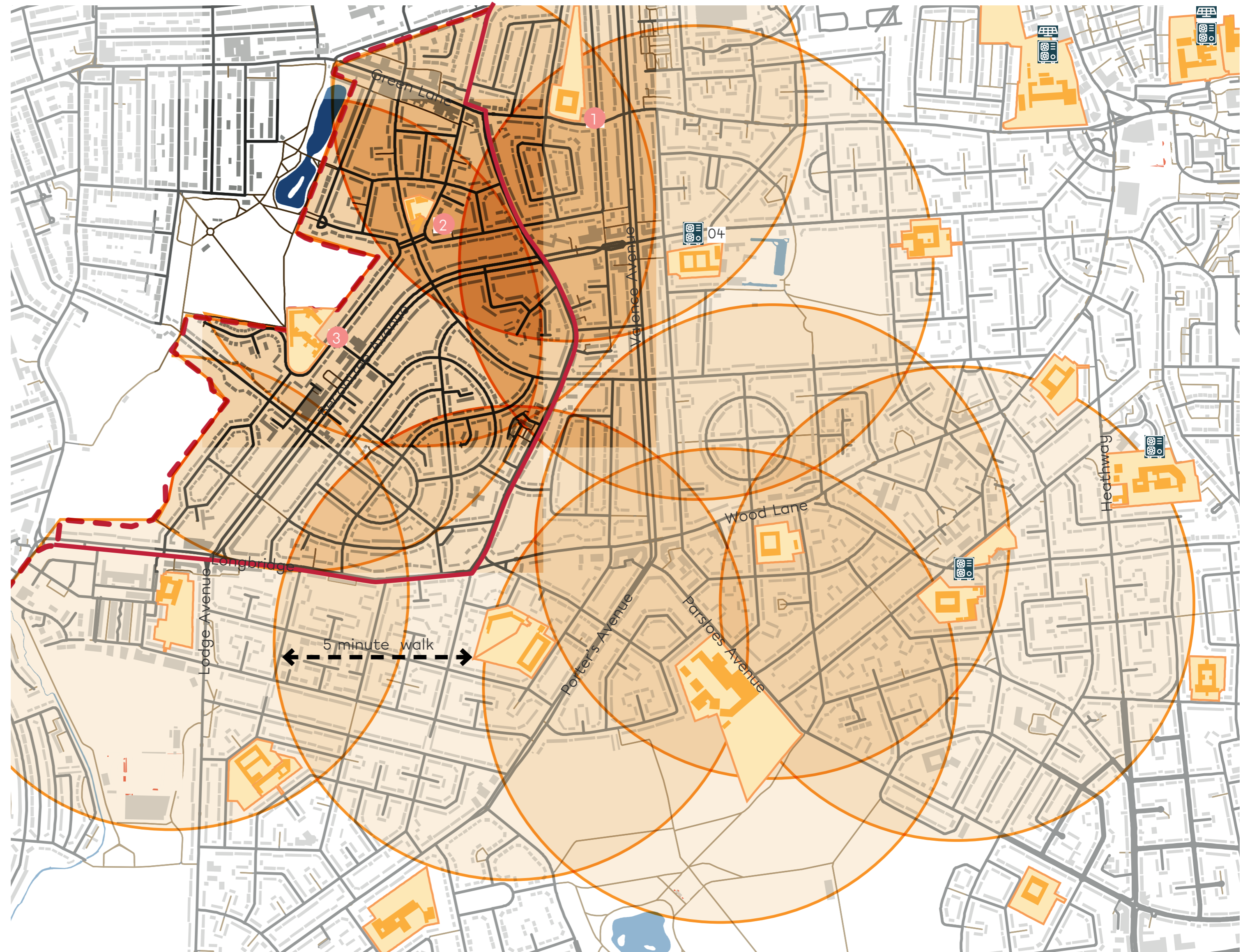
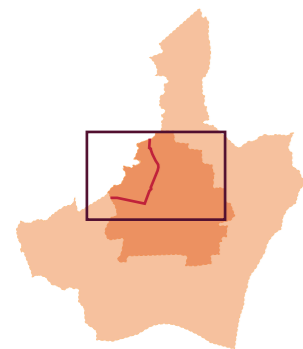
Ongoing work by Amaresco and LBBD highlights the potential projects that will play a significant role in achieving carbon reduction ambitions. Following multiple detailed site visits, in-depth data analysis and discussions with occupants of these buildings as well as the Council's Re:fit project team, a series of schools have been listed as suitable for an extensive number of Energy Conservation Measures (ECMs).

These include retrofitting ASHP and solar panels to existing school buildings, some of which are in the Becontree ward and estate. The schools in and closest to Becontree Ward are listed below.

- 01. Henry Green Primary School
- 02. St Vincent's Catholic Primary School
- 03. Becontree Primary School

Key

-  Borough boundary
-  Becontree ward boundary
-  Schools
-  Roads
-  Built form
-  current ASHP retrofit target
-  current PV solar retrofit target
-  5 min walking radius



Opposite: Map showing local schools and 15 minute walking radius

Council owned land







Critical mass

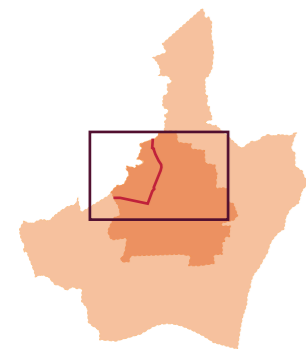
The rollout of retrofit across the estate depends on a critical mass of council owner properties which can be used as exemplar projects for private owners in the rest of the estate.

The delivery of retrofit across the estate means we will be looking to identifying rows of houses where at least 75% is owned by LBBD for an initial phase.

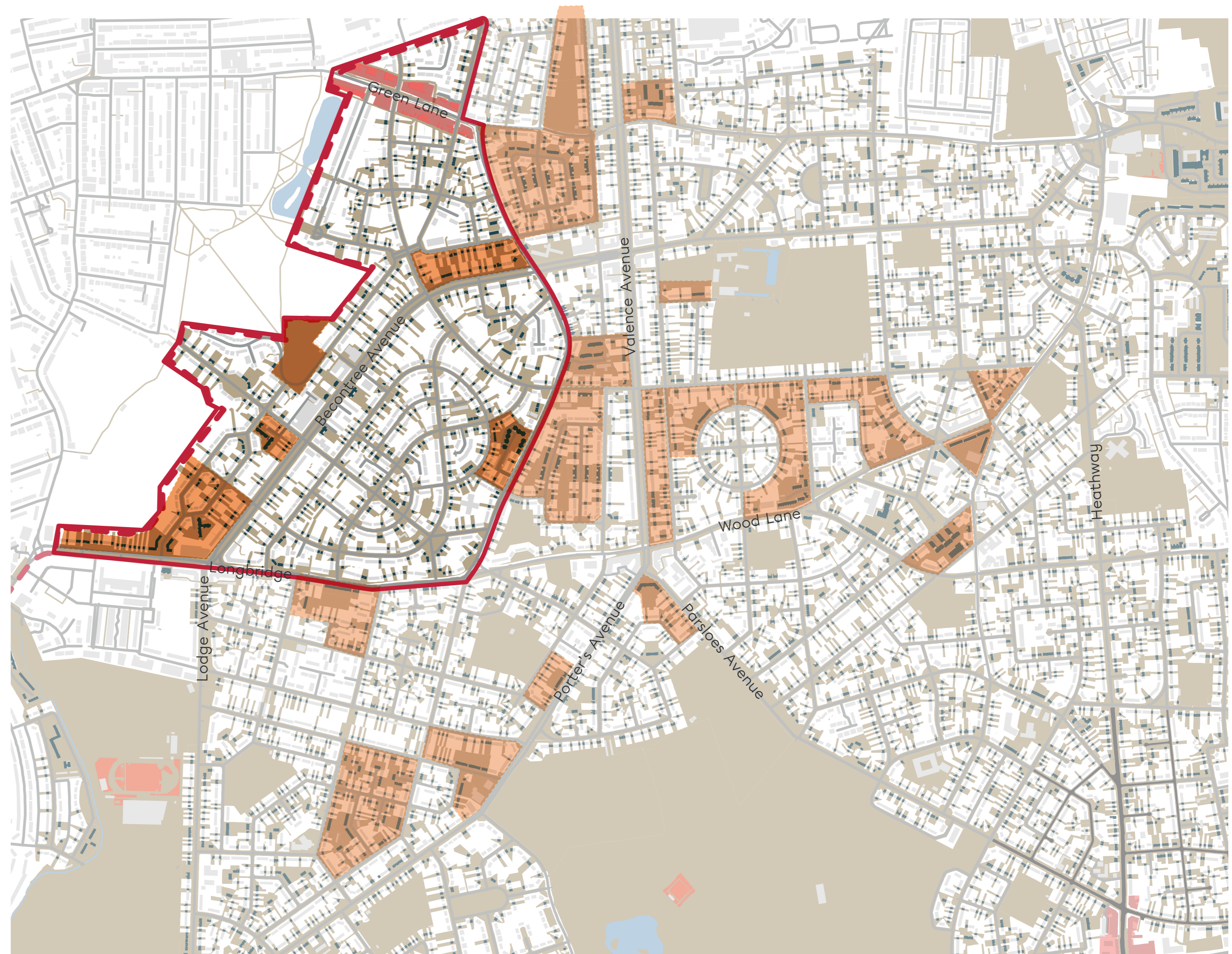
The development of affordable and effective retrofit roll out is dependent on establishing collective purchasing power for residents, both owners and social housing tenants. This analysis looks at where houses owned by LBBD make up a significant proportion of terraces or rows. This means Engagement will be essential.

Key

-  Borough boundary
-  Becontree ward boundary
-  Council owned land
-  Council owned buildings
-  Built form
-  Proportional majority council owned land



Opposite: Map showing council ownership land and buildings



Open Space Types

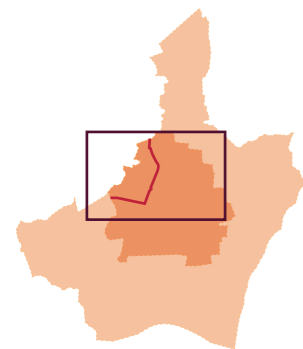
Observations

Despite Becontree's unique garden city principles and large, civic, green spaces, some areas still appear to suffer from deficiency in regards to access to open space; this may be due to a lack of usable small and medium sized open spaces between these large town parks.

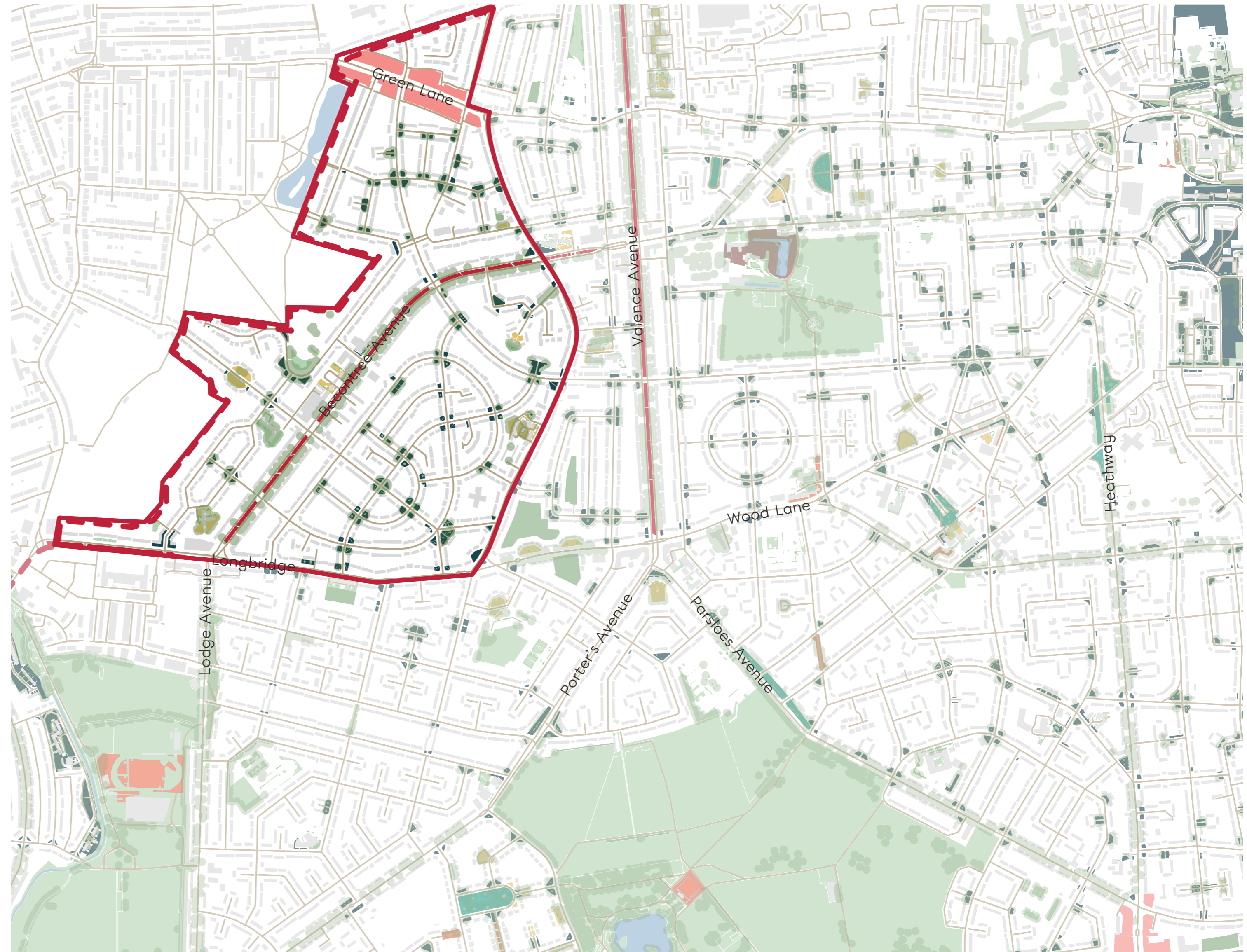
- Land designations are located within Metropolitan Open Land
- Some parts of the Becontree are very well served by allotment space whilst others less so

Key

-  Borough boundary
-  Becontree boundary
-  Town parks
-  Pocket parks
-  Corners
-  Courts
-  Verges
-  Boulevards
-  Sport and recreation
-  Natural and semi-natural
-  Cemeteries and churchyards
-  Allotments



Opposite: Map showing green spaces and types



Community and Delivery

Engagement Approach

To understand the ideas, aspirations and lived experiences of the Becontree community, four pop-up community conversation events were held by Urban Symbiotics across the Becontree estate, in the following locations:

- Dagenham Heathway
- Valence local centre
- Becontree Station
- Becontree Primary School

The insights from conversations were recorded on post-it notes and applied to an “ideas wall” under the appropriate heading. A map of Becontree was also used to record where people lived on the estate, the spaces they used and the routes they frequently used.

At the end of each event the insights were digitised and uploaded into a database where they were categorised and analysed.

211 conversations with residents were held, resulting in over 500 insights.

On asking people what they thought of their area, a lot of the key positives were centred around accessibility to local amenities, with schools, parks and local shops being some of the main amenities valued as within close proximity.

Within this insight was a key statement worth highlighting where a number of respondents said Becontree feels like ‘Home.’ This was linked to the comments about feeling part of a strong community network. The identity of home is not just the physical buildings and local infrastructure; it’s about friends,

schools, parks and community support groups.

There was an emphasis on needing to improve the cleanliness of the area, more regular litter picking and general maintenance. There were also numerous comments about crime and safety, with a number of people wanting to see more of a police presence and more community policing.

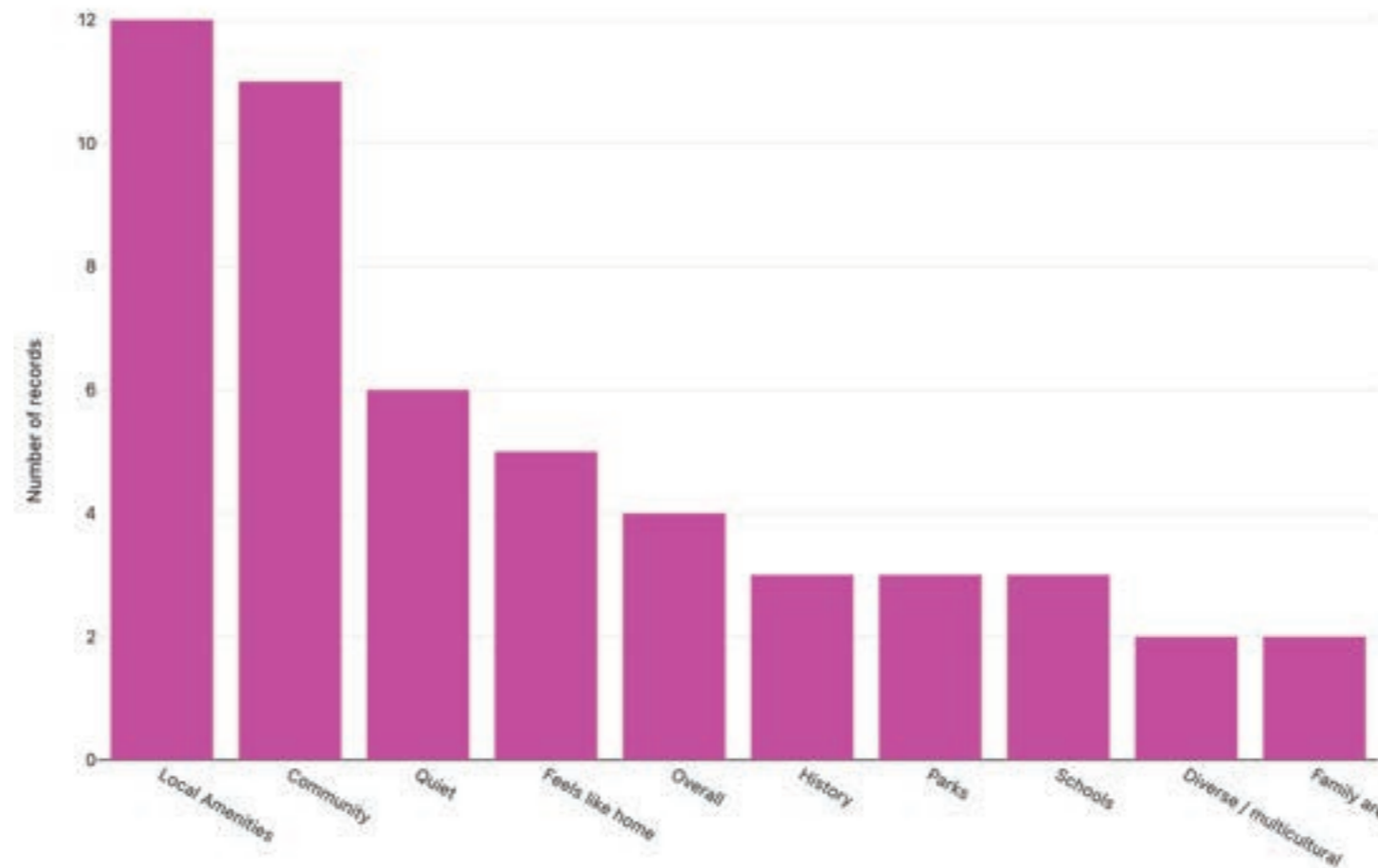
Another key statement was centred around Becontree’s ‘loss of identity’ and nostalgia around how it was once a place with a strong history, but the name Becontree no longer has the same meaning.

Other ideas for improvement included:

- More facilities for people with mental health issues and anxiety
- More spaces for children with learning difficulties (sensory, quiet and calm play)
- Facilities and places for homeless people to spend the day
- More facilities for young people such as skate parks or places that young people could learn about the environment and planting
- A more diverse range of play facilities and activities beyond the conventional playground; some suggestions included tracks for scooters, ground play, a zipline and app-related activities like street tag
- More diverse park activities, such as holding events and musicals there as well as health-related activities such as cycle events and park runs
- More facilities for the elderly, including benches in parks
- Park toilets
- Bins for dog waste
- Improved lighting on streets and in parks



‘Becontree used to mean something, but now it has lost its identity.’



Insights around Sustainability

Sustainability

The sustainability insights were broken down and layered with the category that looks at home improvements and travel which both touch on sustainable movement and day-to-day home practices.

Sustainable travel was one of the main priorities and respondents had aspirations to see more electric vehicles with a focus on encouraging cycling schemes, car sharing and walking buses to school.

Other priorities included an aspiration to reduce heating and electricity use at home and water conservation. There was also a comment about how sustainable options can be more expensive, and whilst people want to live more eco-friendly lives, some of the options and upfront costs available to them are not affordable.

Ideas for living more sustainably included:

- More opportunities to provide allotments so people can grow their own food
- Solar Panels to reduce electricity use
- Biodiversity

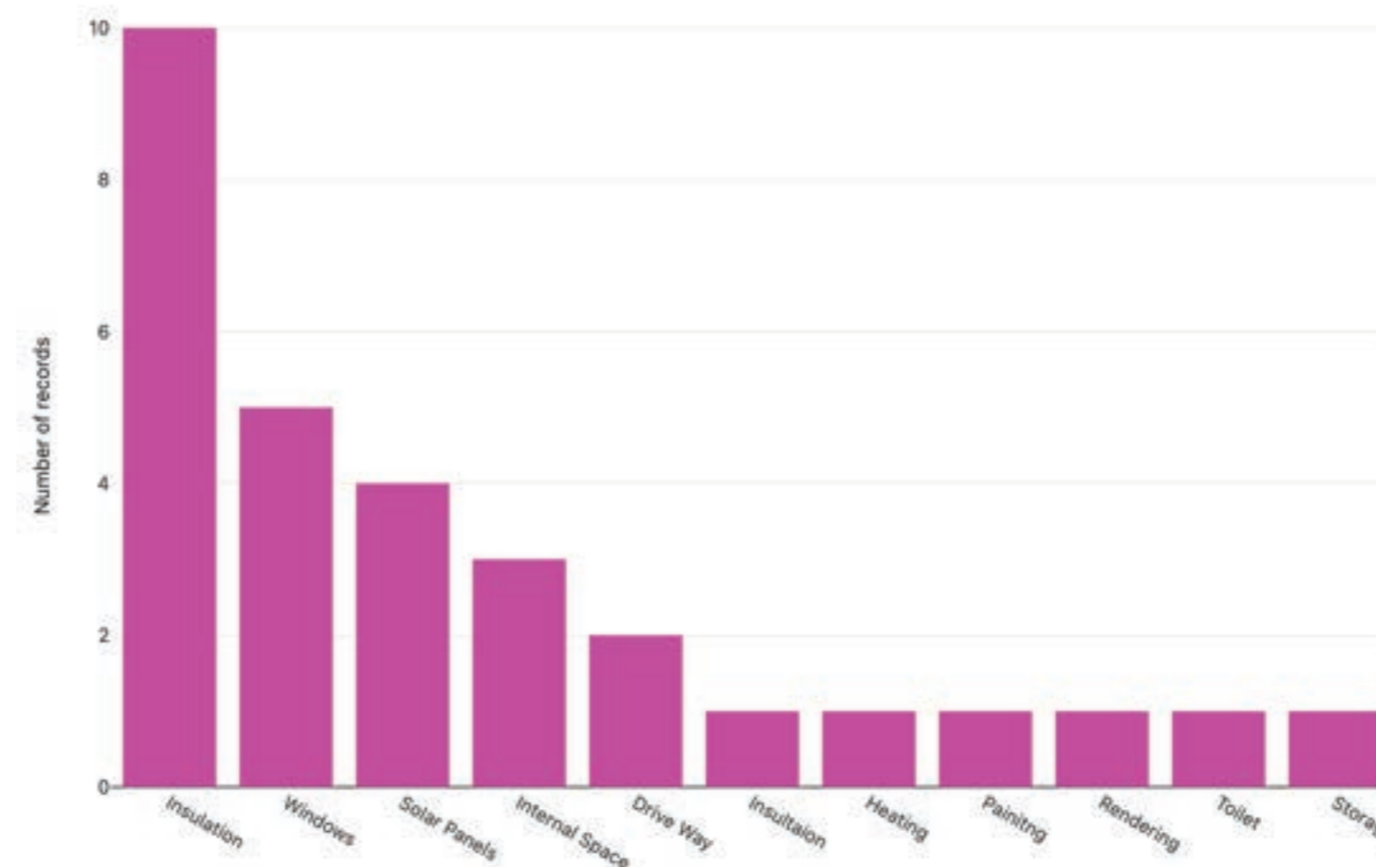
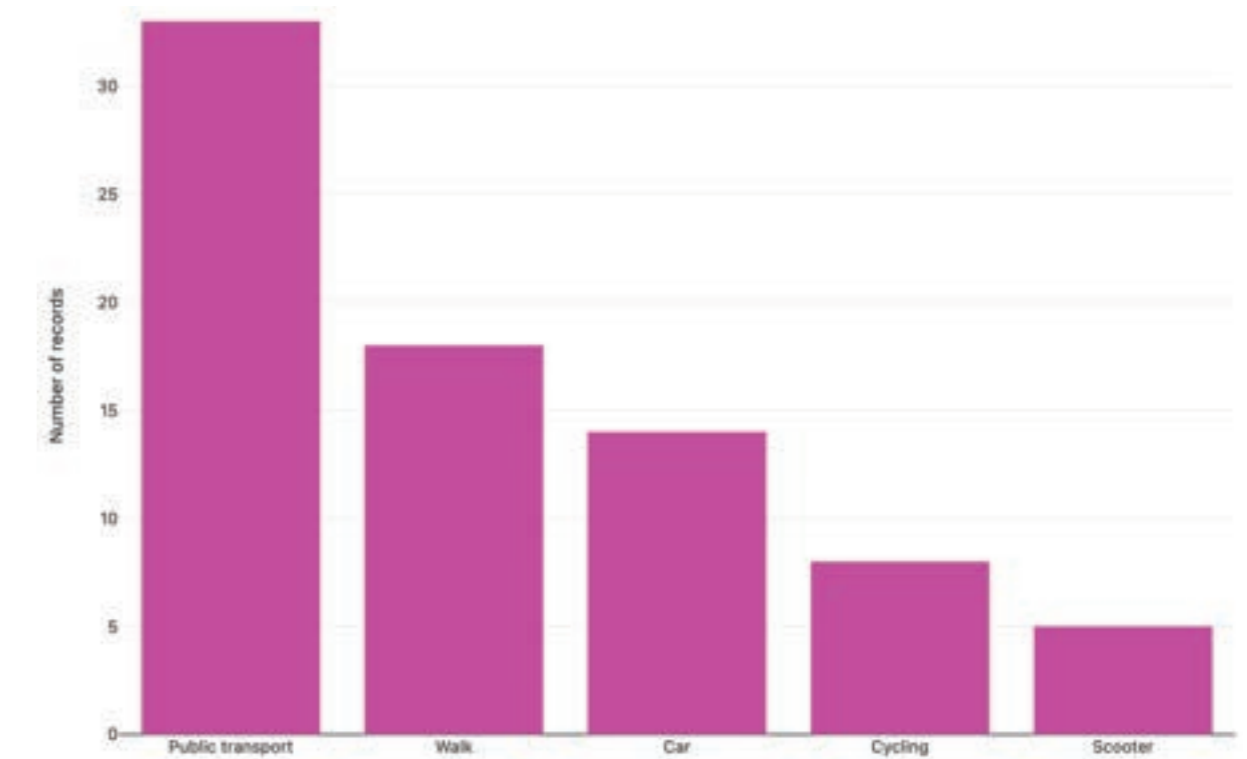
Most respondents use public transport as their main mode of getting around. This was followed by walking, then private car, cycling and scooter. Some of the barriers or issues raised around adopting more sustainable means of travel focussed on cycling. Many respondents felt that cycle infrastructure needs to be improved, from more cycle parking facilities to safer cycle routes and dedicated cycle lanes. Parking was also a major concern, with some key issues raised around insufficient parking. Also of note were concerns about the unreliability, delays and general uncleanliness of public transport.

Some key positive comments about getting around were that the transport links are very good. Many respondents commented that they live within walking distance of local amenities like shops, religious institutions and tube stations.

- Some ideas suggested for improving the way people move through the area include:
- Using colour, sound and lighting at the tube station entrance, surrounding bridges and surrounding spaces to make the area more welcoming.
- Implementing games such as Street Tag to encourage more walking and to encourage young people to walk to school and use the area
- More walk/cycle to school initiatives
- Bicycle rental schemes and cycling lessons
- Bike storage lockers/infrastructure
- Planting more greenery on the streets to make it more pleasant to walk around the area.
- Implementing smaller buses for the backstreets or some other localised transport network like trams
- Introducing better cycle infrastructure/cycle paths
- Disability facilities at train stations



'We would partake in the sustainability options if it wasn't too expensive or if the council helped.'



'An eco-friendly show home would help educate me with refurbishing'



**Becontree:
Garden City for the Future**

Becontree Neighbourhood 2030

Principles

Many of the key principles of the Garden City model are applicable to a future neighbourhood:

Green Space:
a nature recovery network with pocket parks and green links

Community Led:
Co-designed public realm improvements

Local Employment:
A reinvigorated Neighbourhood centre

Mixed Tenure:
A joint approach to community retrofit

Community Owned:
Local district heat networks

Natural Beauty:
Visible recognition of Becontree's natural assets

Culture and Leisure:
Community schools with sustainable resources

- Self sufficiency with local businesses supporting the community and providing employment
- Spacious to provide light and air for all people - and plants
- Green Spaces for the local community to benefit from
- Engagement and ownership from every level of a mixed tenure surrounding



1. Green Lane

Improvements to public realm and transport offer around Neighbourhood Centre

2. Henry Green School

Forest School status, landscape improvements and SUDS for Henry Green School

4. Lodge Avenue Junction

Renewable energy infrastructure and maker spaces around Lodge Avenue

3. Becontree Primary

Outdoor classroom and edible playgrounds for Becontree Primary School

5. Retrofit Pilot House

Pilot Retrofit Scheme as launchpad for wider rollout

6. Community heat pumps

Renewable energy infrastructure for residents

Sustainable Movement

Current Context: Green Lane

Needs and Constraints

A number of local centres have a typology of linear terraces with commercial spaces below and flats above. They vary in style but the commercial spaces below are often limited in size.

- Many commercial sites are served with narrow access roads to the rear
- There is little external green space
- Many buildings have modern extension / alterations
- Clutter concentrated at corners
- Barriers located at crossing points
- Tree planting is inconsistent and poorly maintained

Generally speaking, centres formed by streets fair better in Becontree for a number of key reasons:

- Less dead, undefined hardscape at corners
- Shop frontages have a better connection with the street

Key

 Trees	 Public pavement
 Barriers inc	 Hardscape
 bollards	 Buildings
 Bus stops	 Landscape Space
 Bins, bikes and other	 Road
 Lighting	 Original commercial buildings
 Formal crossings	 Later additions
 Informal crossings	 Yards and private space
 Zebra crossings	 Hard circulation
 Bike lanes	 Boundary to private garden
 Major Road	 Internal fixed boundary
	 Points of entry

Opposite: Analysis of public realm



Wide junctions



Underused parking



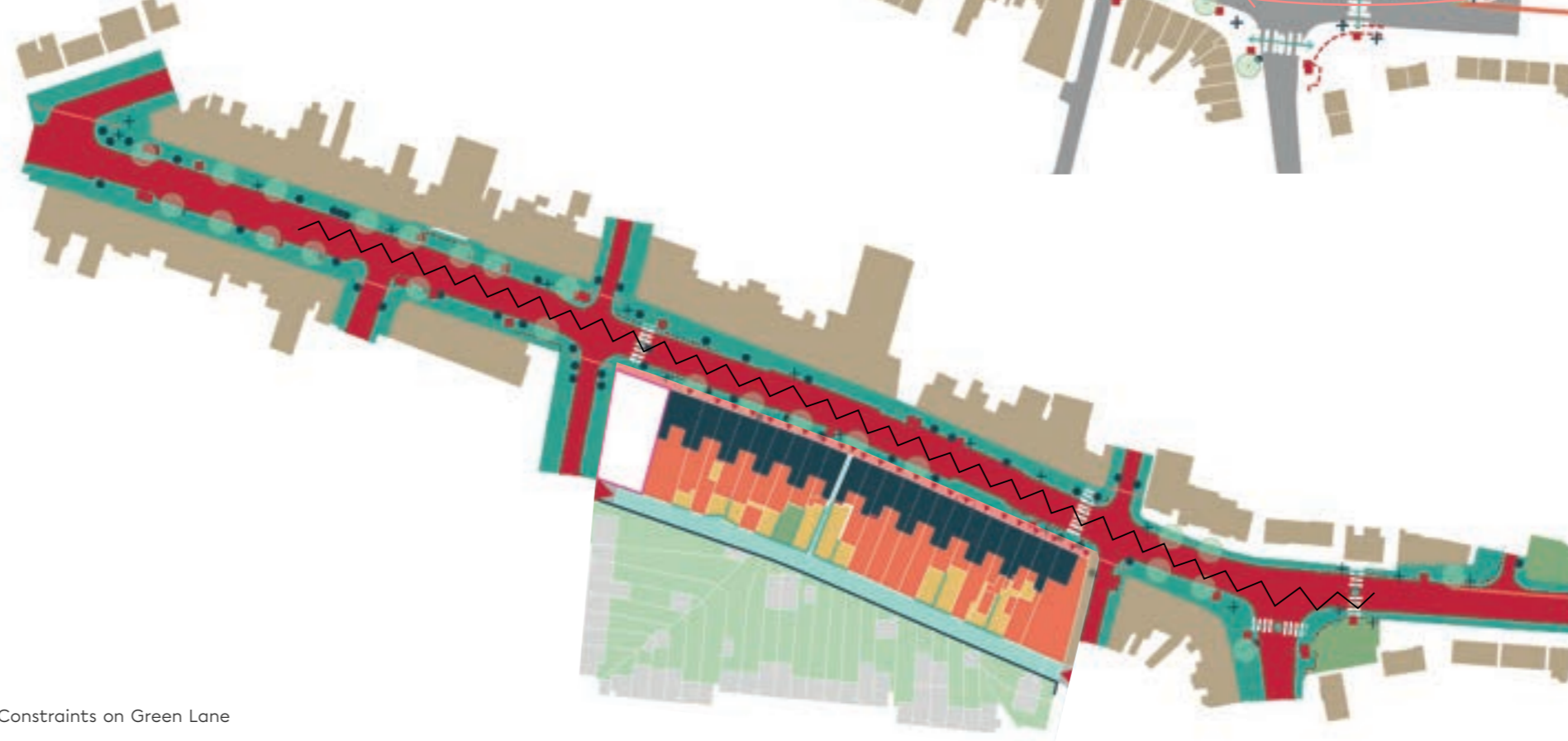
Car dominated



Inefficient junctions







Analysis of public realm Green Lane



Constraints on Green Lane



Key

	Pedestrian 43.4%
	Vehicular 44.6%
	Green 5.9%
	Undefined 1.3%

A Sustainably Connected Neighbourhood Centre

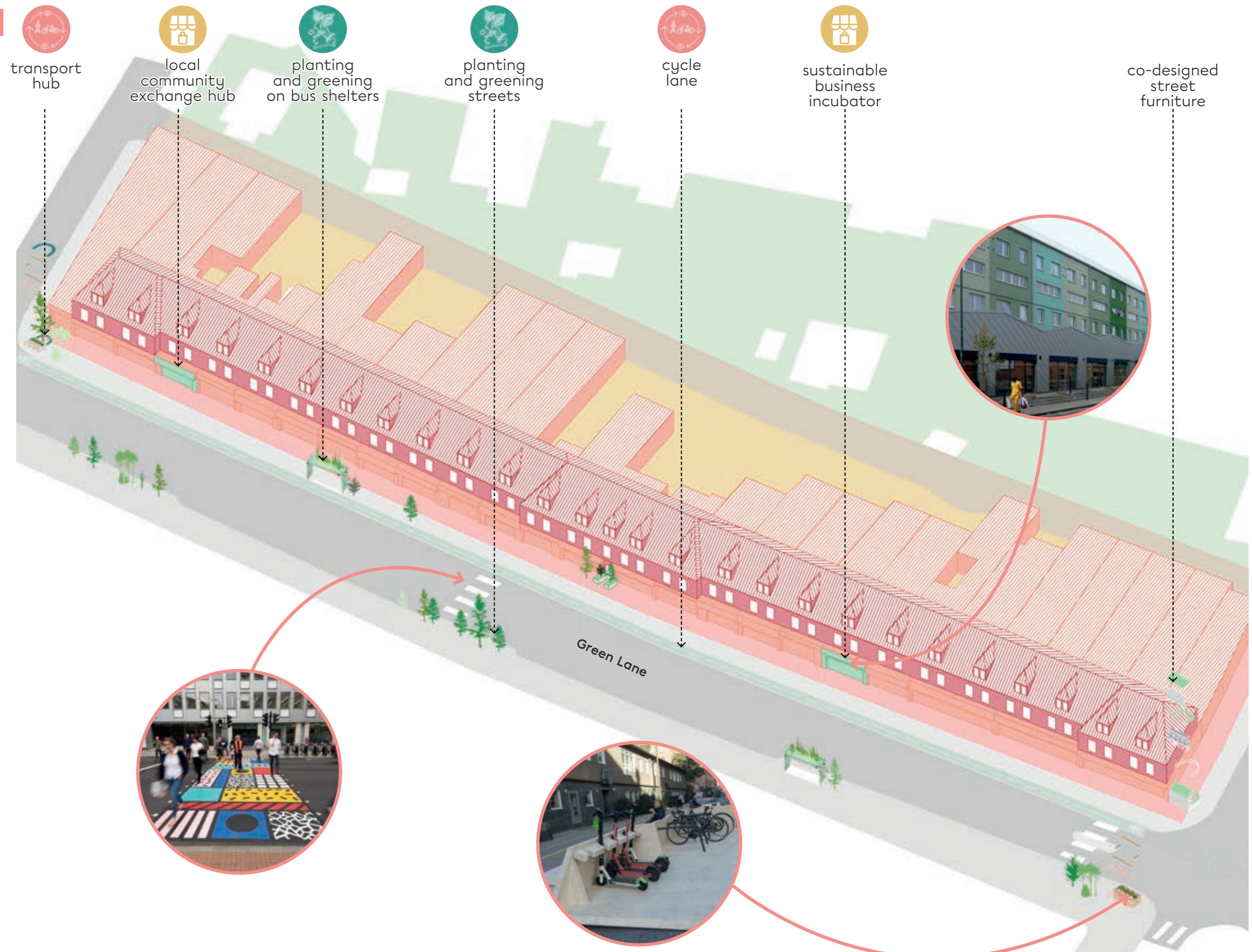
Summary proposals

Introducing reconfigurable street furniture to add benches, planters, cycle storage and community exchange hubs to the corners and pavements of Green Lanes.

Co-designed by residents, these interventions stitch together to make an interconnected series of proposals for socially responsible and sustainable ways of living.

- Adding cycle lanes
- Supporting local businesses with appropriate street furniture
- Locating sustainable businesses and material re-use centres
- Improvements to shop fronts and commercial spill out space
- Introduction of residents co-designed street furniture
- Supporting local sustainable businesses and encouraging employment in the community

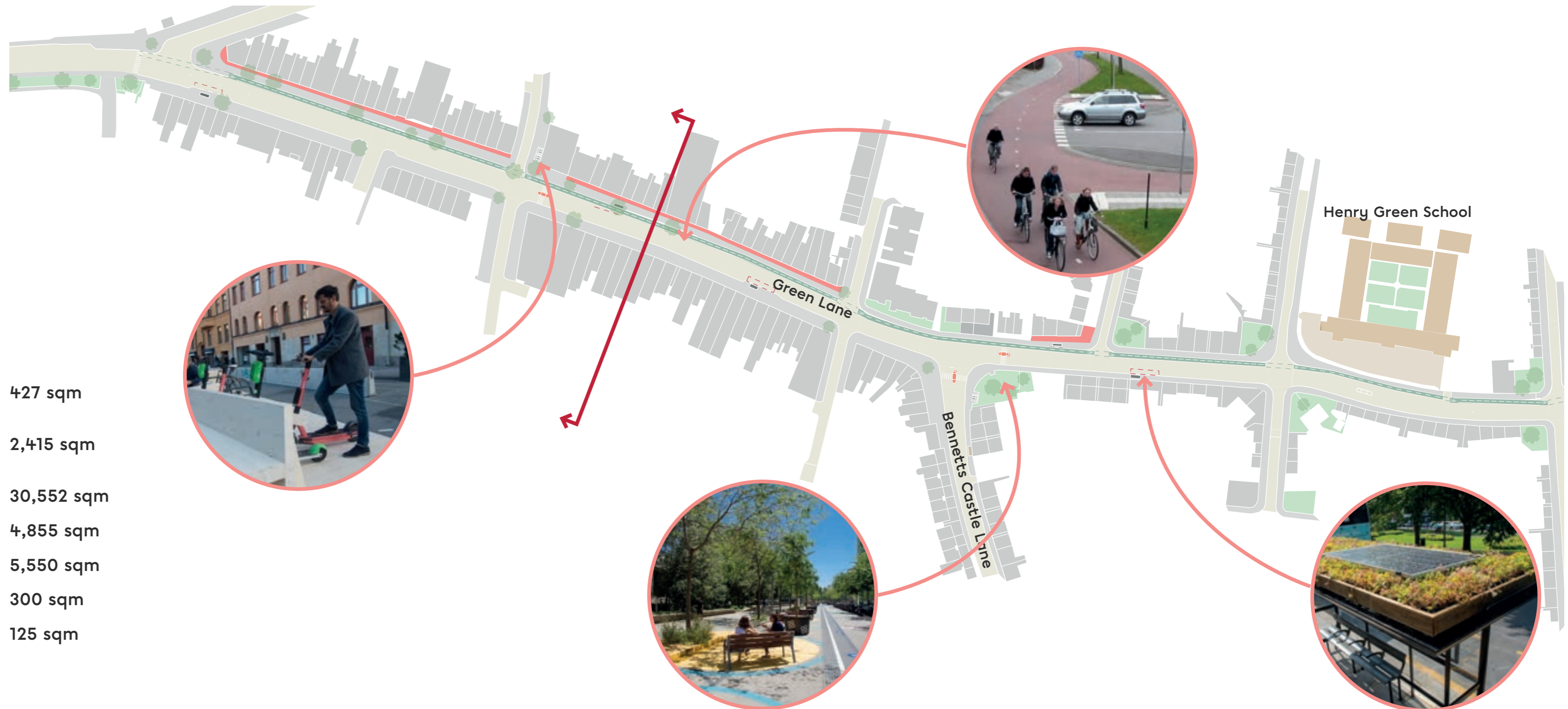
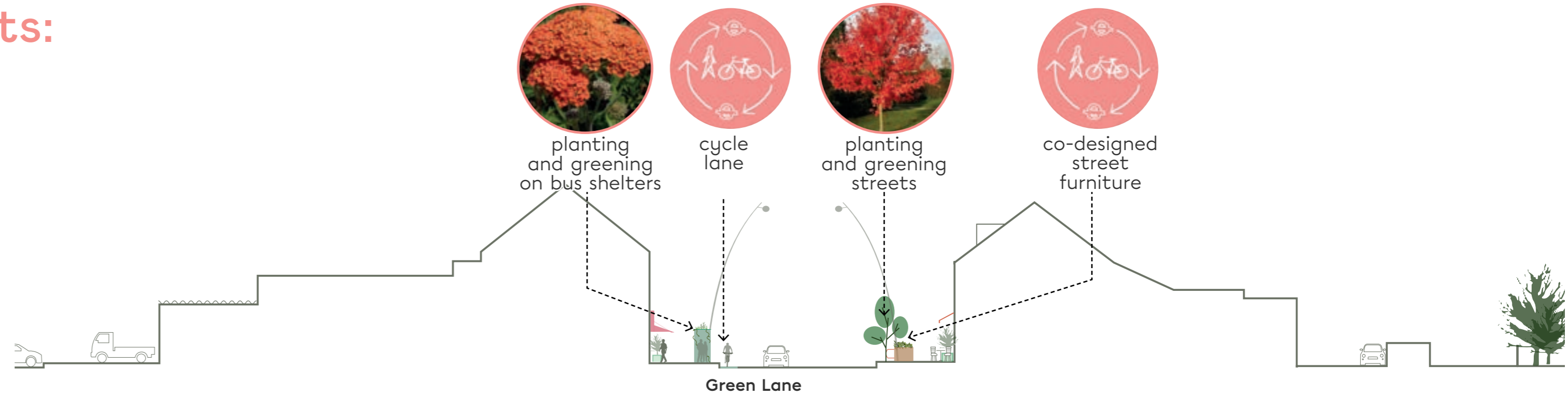
	Area for public realm improvements	300 sqm
	Area for cycle lane	300 sqm
	Area for landscaping improvements	200 sqm
	Area for commercial retrofit	500 sqm
	Area for pedestrian priority crossing	45 sqm
	Co-designed street furniture (bench, bike store, parcel lockers)	7 sqm










Public Realm Improvements: Green Lane

Summary proposals

- Installation of bi-directional cycle lane and sustainable transport hubs
- Improvement of public realm and pedestrian crossings
- Introduction of community designed street furniture, including planters
- Improvement of commercial spill out area and shop fronts
- Improvement of green spaces with formal and ornamental civic planting
- Ornamental shrub and herbaceous mix, eg: *Omphalodes verna*, *Hosta fortune*, *Tiarella*, *Geranium phaeum*, *Rosa banksiae 'Lutea'*, *Rosa moyesii*
- Deciduous, pollution tolerant, street trees, such as *Tilia X Europaea*.
- Bus stops with biodiverse green roof mix, eg *Rudbeckia*, *Achillea*, *Potentilla*, *Armeria*, *Dianthus*, *Helictotrichon sempervirens*, *Stipa tenuissima*.



	Bus stops with pedestrian priority	427 sqm
	Commercial spill out area improvements	2,415 sqm
	Area for traffic calming improvements	30,552 sqm
	Area for public realm pavement improvements	4,855 sqm
	Proposed bi-directional cycle lane	5,550 sqm
	Area for landscaping improvements	300 sqm
		125 sqm

Opposite: Indicative diagram for public realm works

Lodge Avenue Junction

Needs and Constraints

Lodge Avenue is a neighbourhood corner centre, one of several distinctive and important parts of the of Becontree character.

- Corners present opportunities to widen pavements and create a generous public realm
- Green areas can be easily provided at corners to provide relief from the road as well as amenity space

Unfortunately, through a combination of original design, changes in behavior and the development of surrounding areas, the corners are currently not performing well. Negative attributes include:

- Crossings are convoluted and discouraging for pedestrians
- Barriers contribute to unwelcoming public realm
- Green areas feel disconnected and unusable
- Pavements are currently too wide to support the levels of activity and feel hard, cluttered and bleak

Key

Context	
Trees	Public pavement
Barriers inc	Hardscape
bollards	Buildings
Bus stops	Landscape Space
Bins, bikes and other	Road
Lighting	Original commercial buildings
Formal crossings	Later additions
Informal crossings	Yards and private space
Zebra crossings	Hard circulation
Bike lanes	Boundary to private garden
Major Road	Internal fixed boundary
Clock	Points of entry

Opposite: Analysis of junction



Wide junction corners



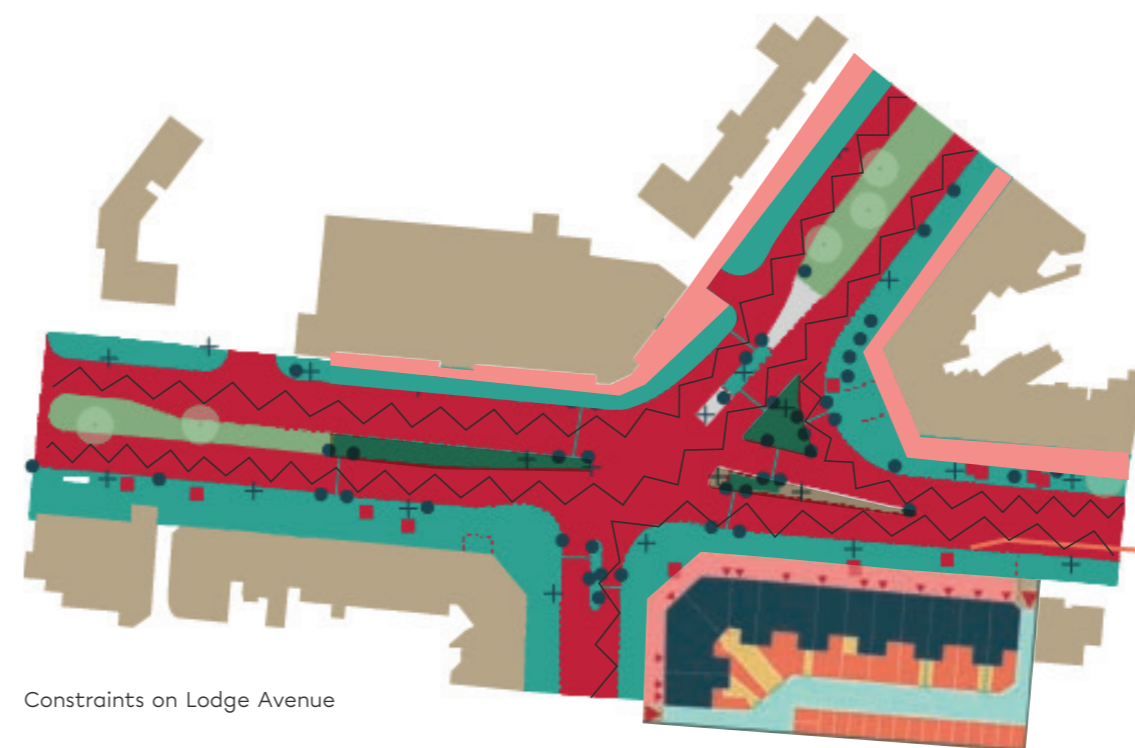
Tree lined Boulevards



Limited crossing places



Underused public realm



Key

Pedestrian	43.4%
Vehicular	44.6%
Green	5.9%
Undefined	1.3%

Lodge Avenue Junction Proposed

Needs and Constraints







The current junction is wide and car dominated with little green space and a lack of suitable street furniture.

- lack of crossing spaces
- no street planting
- poor signage

Summary Proposals

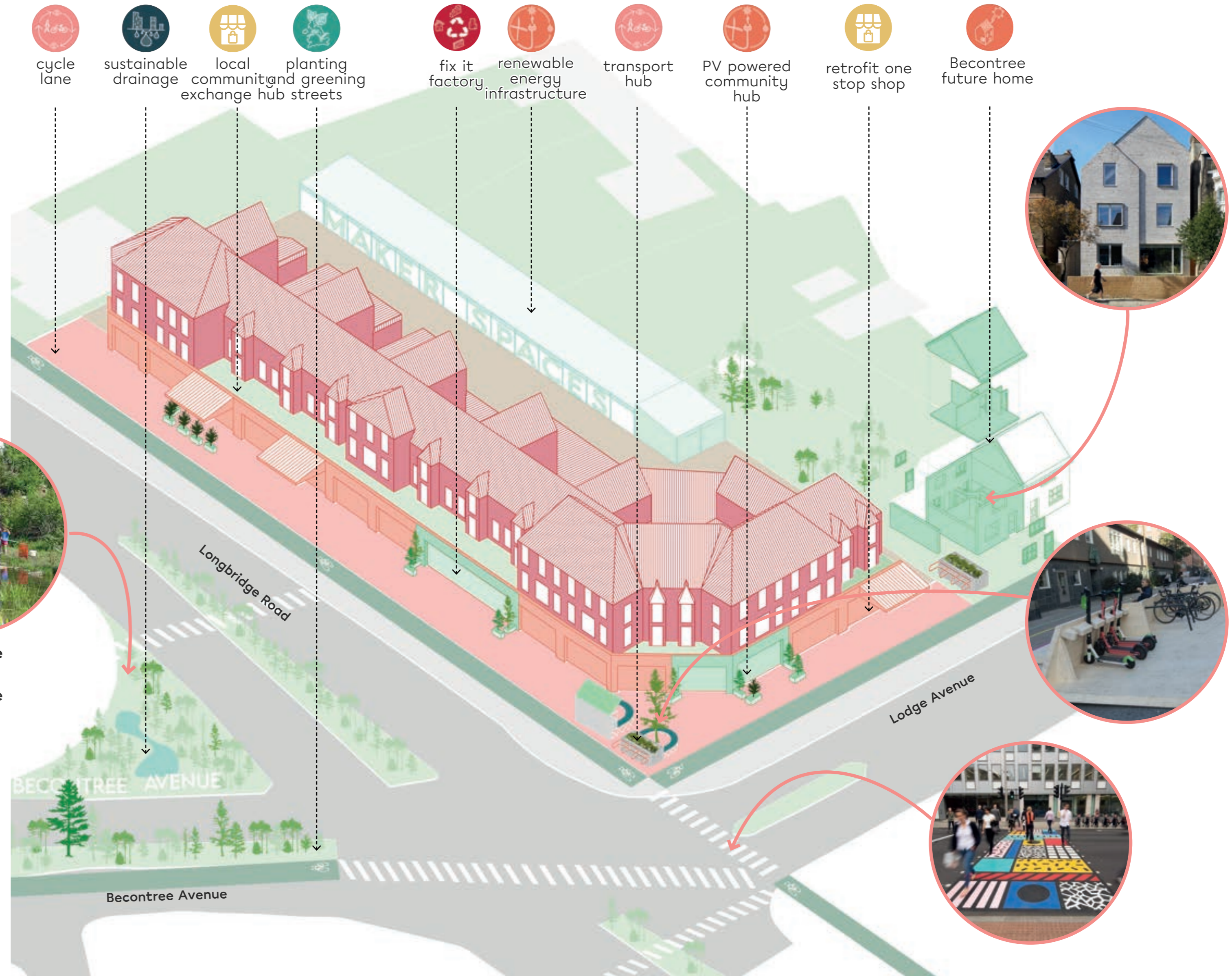
A series of interventions to which soften the space, consolidate green interventions and increase community use.

- Adding cycle lanes
- Supporting local businesses with appropriate street furniture
- Locating sustainable businesses and material re-use centres
- Improvements to shop fronts and commercial spill out space
- Introduction of residents co-designed street furniture
- Using the pilot retrofit scheme as a model home for the local community to visit

	Area for public realm improvements (install slab, repair tarmac, replace kerb)	see following page
	Area for cycle lane	see following page
	Area for landscaping improvements	200 sqm
	Area for commercial retrofit	1060 sqm
	Area for raised table pedestrian priority crossing	175 sqm
	Co-designed street furniture (2 x bench, 1 x bike store, 1 x parcel lockers)	18 sqm



Opposite: Proposal for junction intervention with cycle lanes and street furniture

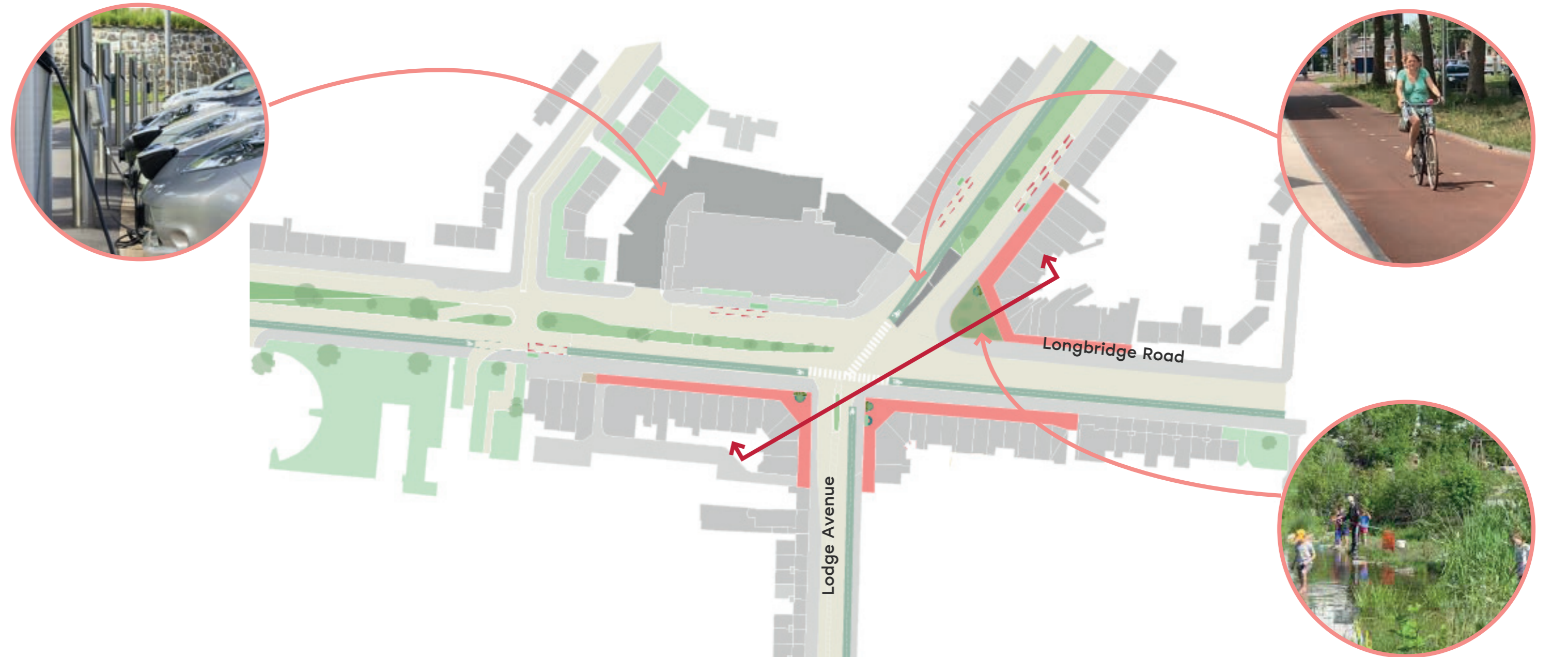
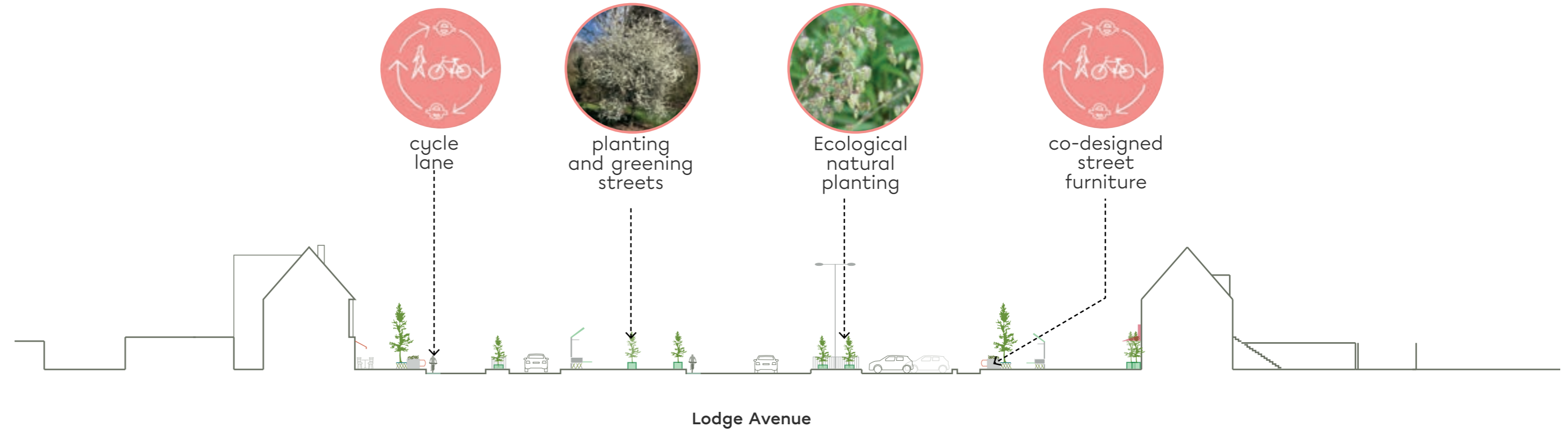







Public Realm Works Lodge Avenue

Details:

Alongside reconfiguring the junction to support active travel, with transport hubs, EV charging and street furniture, the proposal includes an ecological link with native / semi native species and a natural focus, especially on the Becontree Avenue semi native woodland strip.

- Woodland shrub and herbaceous mix, such as Glechoma hederacea, Luzula subsp. Tiarella subsp, Anemone subsp, Liriope muscari, Iris subsp, Dryopteris subsp, Rubus subsp.
- Trees native species including Prunus spinosa, Crataegus subsp. Betula nigra, Alnus incana
- SUDS area planted with drought tolerant herbaceous mix including: Sesleria subsp., Geranium subsp., Briza mediav, Miscanthus subsp., Carex subsp.



	Area for public realm improvements (install slab, repair tarmac, replace kerb)	2,059 sqm
	Area for public realm pavement improvements (cleaning & maintenance)	5,286 sqm
	Area for landscaping improvements	1,781 sqm
	Proposed bi-directional cycle lane	680 sqm
	Bus stops with pedestrian priority	135 sqm



Opposite: Indicative diagram for community heat pump array.

Decarbonising Schools

Henry Green: Forest School






Needs and Constraints

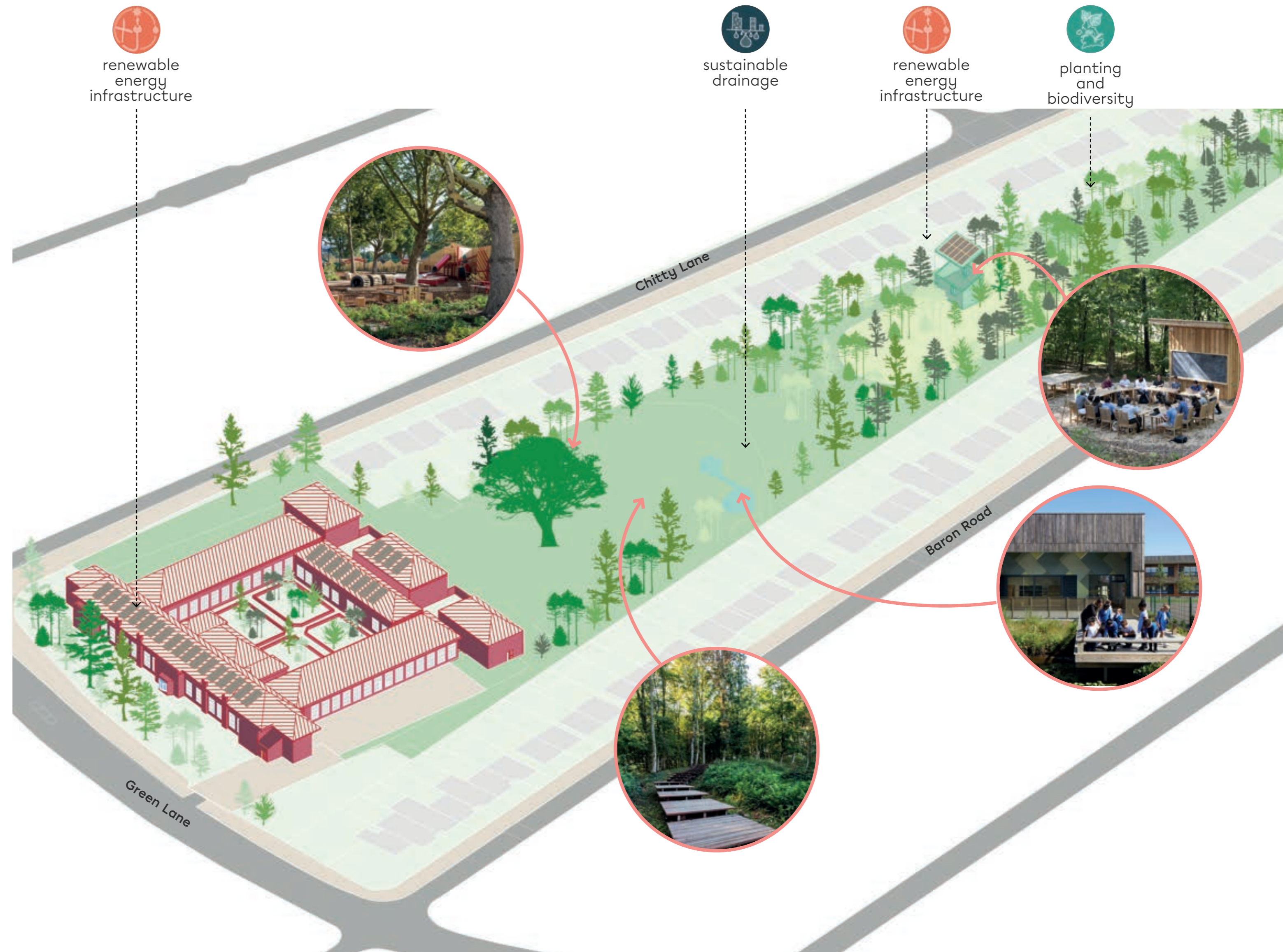
The school wants to offer children the widest variety of learning experiences, and are keen to apply for Forest School status.

- Priorities for the school Eco Committee are litter, pollution and energy use
- Wildlife preservation is a big part of the curriculum
- Cycle to school street is popular but more cycle storage would be good
- Energy monitors in each class
- Community litter picking to be included
- Outdoor classroom and outdoor activity spaces key

Summary proposals

Using forest school status to underpin further sustainable initiatives. Expanding on existing planting and introducing sustainable drainage on the school grounds.

	Area for active sensory play	376 sqm
	Area for outdoor classroom/storage	30 sqm
	Area for landscaping improvements (hedgerow & tree planting)	2,723 sqm
	Forest School equipment storage with stump seating	376 sqm
	Area for solar panel installation	610 sqm








Becontree Primary School: Community

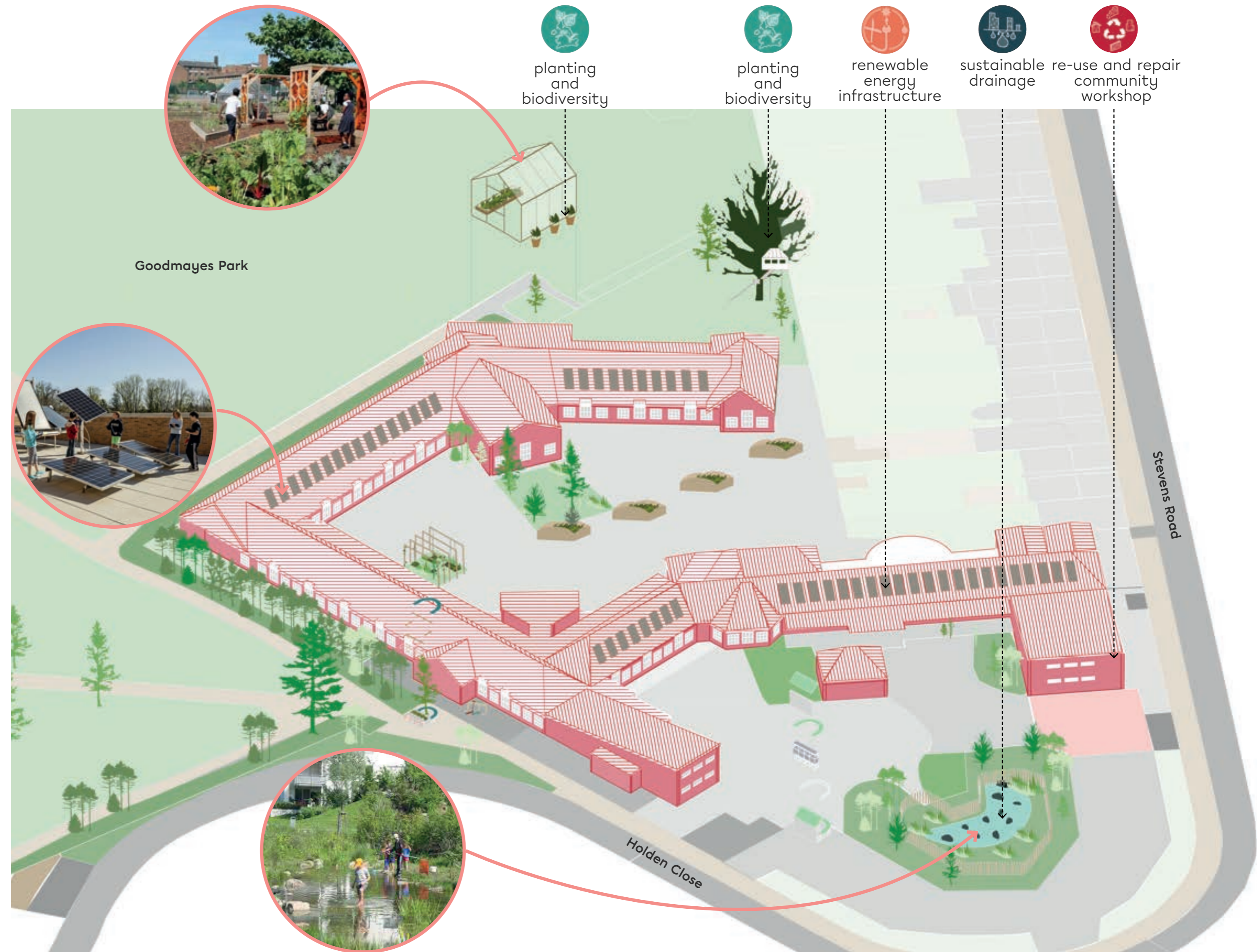
Needs and Constraints

Becontree Primary is a key community school, and will focus their sustainability work around the community, providing uniform swap and repair shops, better recycling facilities, and outdoor teaching facilities adjacent to the park

Summary proposals

- Edible playgrounds - raised beds for planting and integration into the curriculum
- Outdoor classrooms with growing opportunities
- Integrated renewable energy
- Sustainable drainage with learning opportunities
- Community recycling and repairing infrastructure

	Area for edible playgrounds (raised beds with fruit and veg)	200 sqm
	Area for sustainable drainage	50 sqm
	Area for landscaping improvements (hedgerow & tree planting)	120 sqm
	Greenhouse / Outdoor Classroom	25 sqm
	Area for solar panel installation	120 sqm



Becontree Retrofit: Future Home

Homes in the Becontree

Homes today

The majority of the Becontree is made up of the "S" type series of homes. With 14 base types, these cottages vary in their number of habitable rooms (2-5), whether they have parlours or not, and their external entry thresholds and window types.

Depending on the section they are used in, these basic types have modifications and adaptations to fit the street context and to create distinct moments of character in different parts of the estate.

Over time many homes in private ownership have undergone later modifications, with the addition of dormer roof, porches, extensions and changes to fenestration.



Retrofit strategy

Needs and Constraints

The current energy rating for properties across the Becontree is low and analysis of factors which may affect energy performance is outlined below:

- Building type
- Form factor
- Construction method (e.g., cavity or solid floor, sprung floor or cast concrete)
- Within terrace or end of terrace
- Additional insulation
- Double glazing
- Extensions and alterations

The retrofit strategy looks to identify patterns in performance across house types and simplify a modular strategy for retrofit which can be rolled out across the estate.



Easebourne Road EPC 49 (E)

Type A1e



Fieldway EPC 57 (D)

Type A1e



Ivinghoe Road EPC 69 (C)

Type A1e



Lynett Road, EPC 70 (C)

Type B1m



Stamford Road EPC 47 (E)

Type B1m



Markygate Road EPC 43 (E)

Type B1m



Valence Avenue EPC 66 (D)

Type C1m



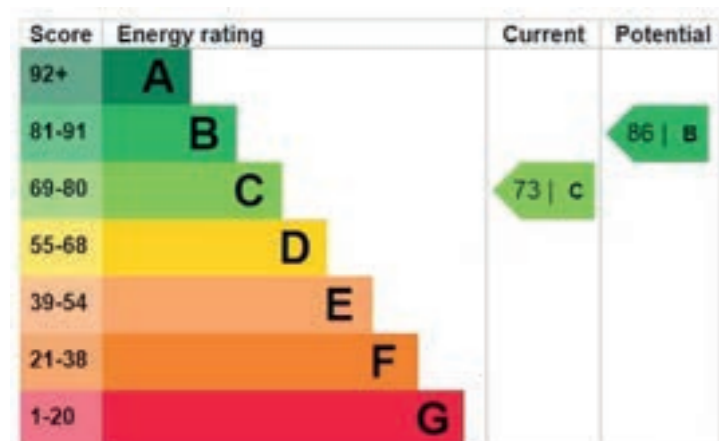
Becontree Avenue EPC 70 (C)

Type C1m



Milner Road EPC 59 (D)

Type C1m



Opposite: Examples of current EPC status of Becontree Properties

House Types

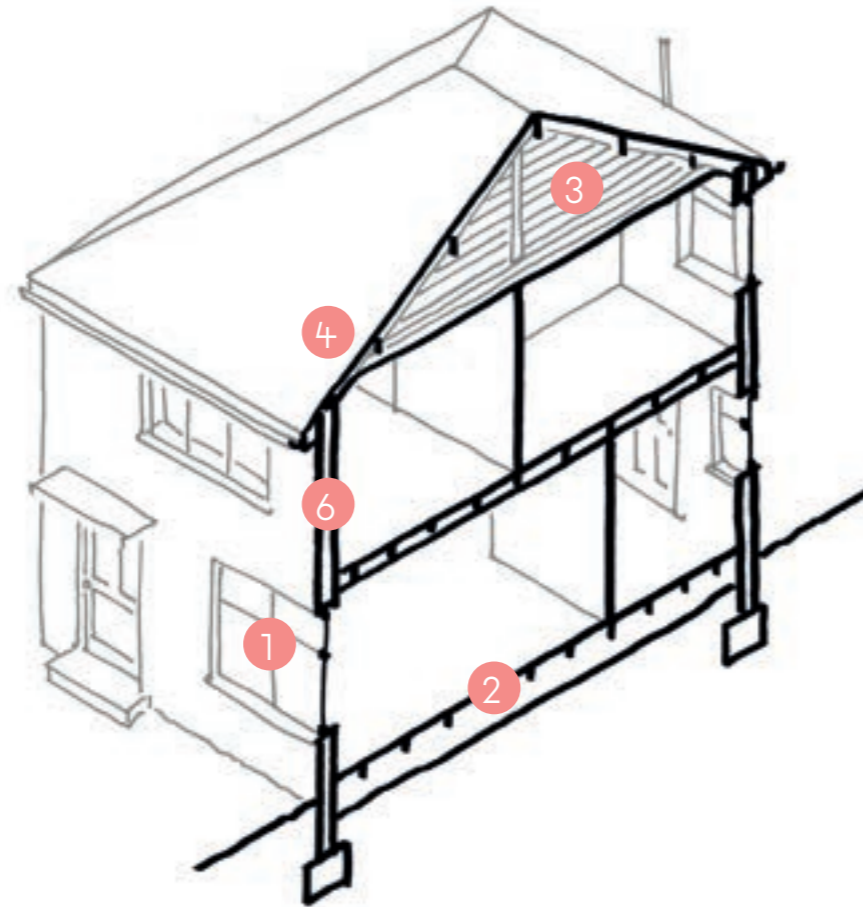
Summary Proposals

As the Becontree is made up of a limited number of housing types, retrofit roll out can be undertaken using a baseline of key types and learnings can be replicated across the estate.

As an estimate, house types A-G comprise 75-80%* of all house types on the estate

- House Type A = 35%* approx. (appears in all wards in the Becontree boundary)
- House Type B = 20%* approx. (appears in all wards in the Becontree boundary)
- House Type C = 15%* approx.
- House type D - G = 7%* approx.

Type A1e

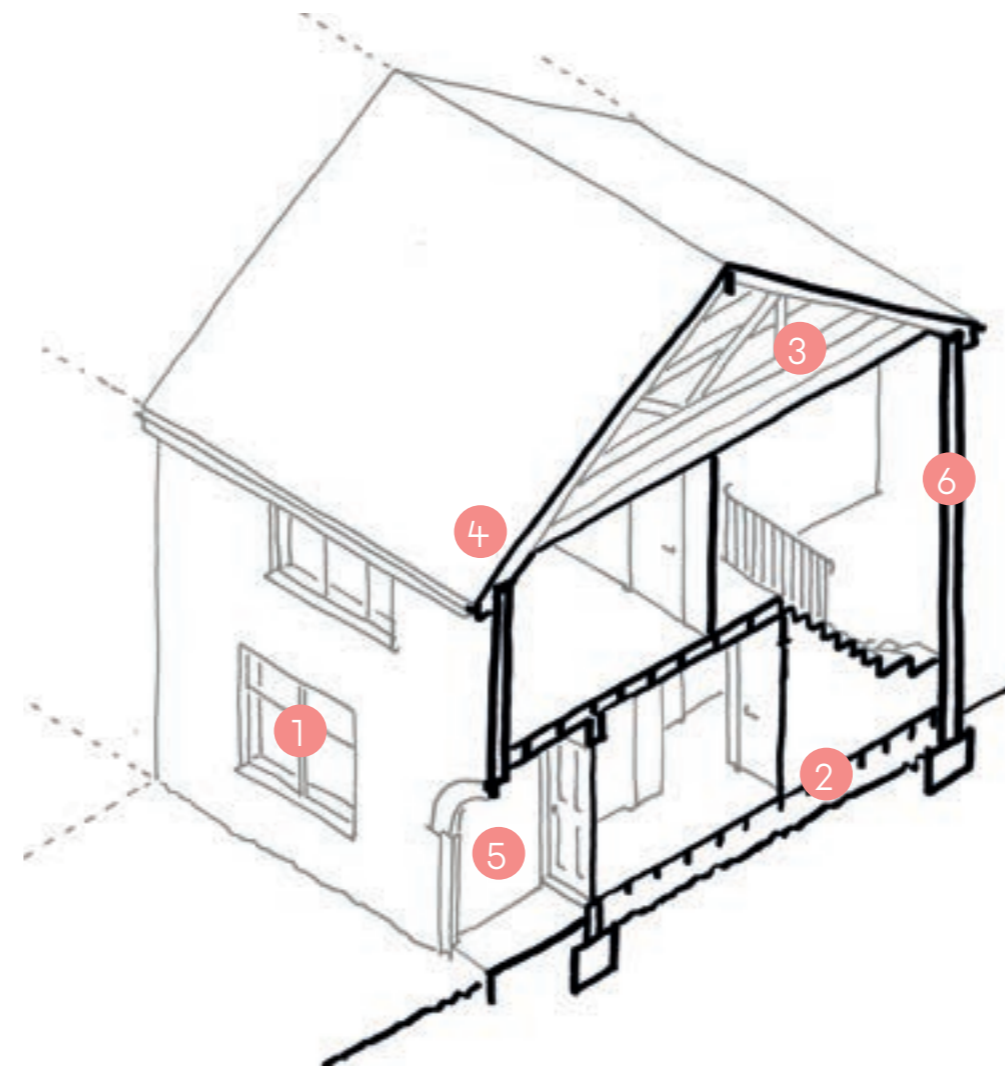


- 1 Many PVC double glazed windows are at the end of their design life

Faulty and worn out seals cause draughts and contribute to heat loss

The windows are installed flush with the external facade leading to increased heat loss through thermal bridging, increased risk of condensation and mould and increased risk of overheating in the summer

Type B1m

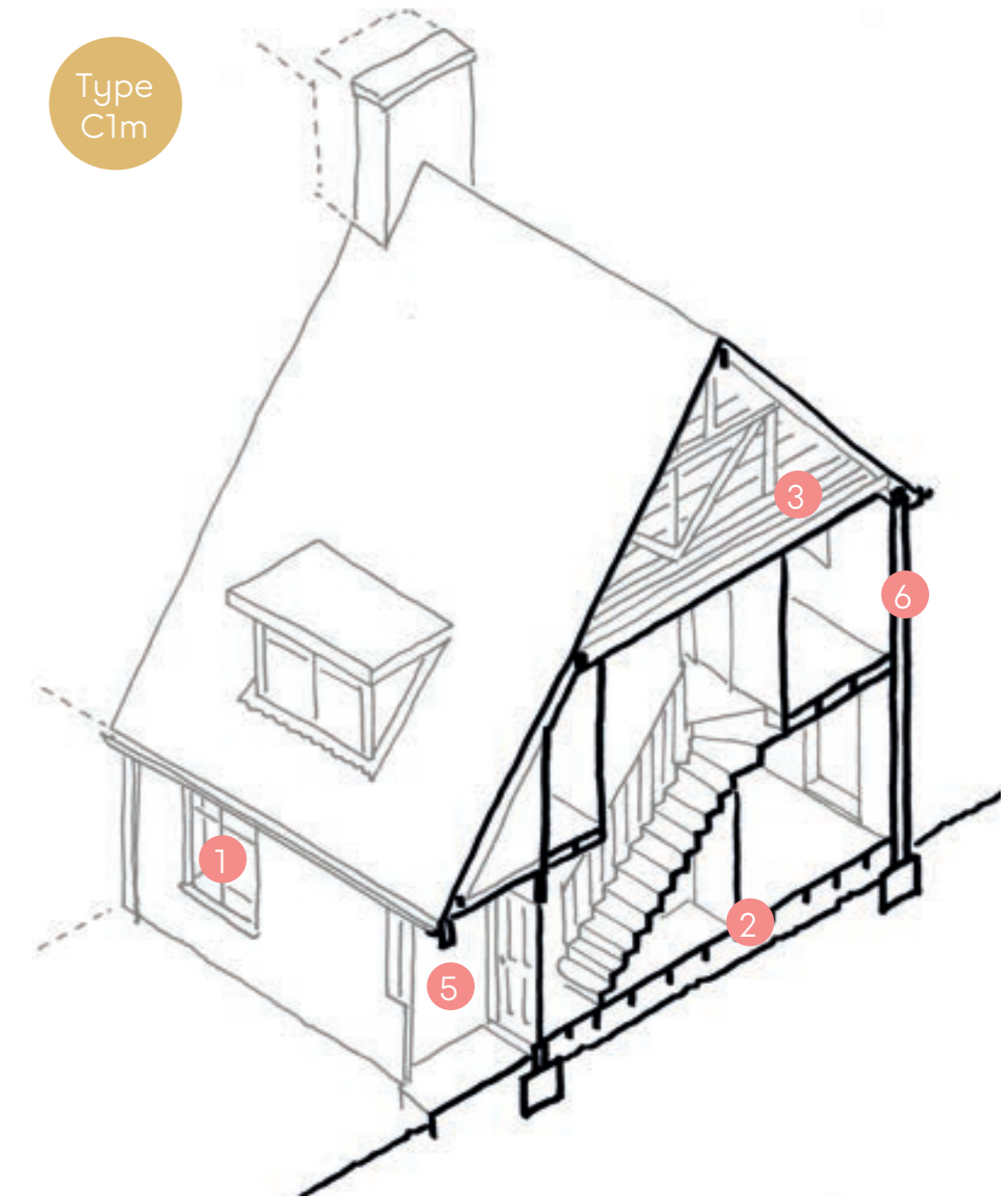


- 2 Most ground floor sub-floors are uninsulated

- 3 Many homes have loft insulation but there is space for more

- 4 There is limited space for loft insulation at the eaves

Type C1m



- 5 Inset entrances are characteristic of the Becontree Estate but increase the heat loss area

- 6 Some homes have cavity walls but not all of these have cavity wall insulation

Becontree Model Home

Summary Proposal

The model home at 7 Lodge Avenue will be a physical demonstration of the opportunities Retrofit can offer to Residents.

The house will be fitted out to a low energy standard, and will be the starting point for the Retrofit Festival. The interior of the house will have sections exposing wall and floor build up, along with exhibition boards and information about the options for Retrofit.

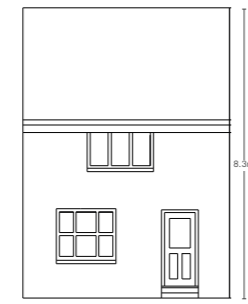
There will be a permanent presence in the house, and it will be the site for the Becontree Retrofit Festival with events such as 'meet the supplier', where residents can understand more about the retrofit process.

House Types: Type A1

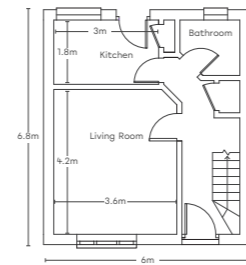
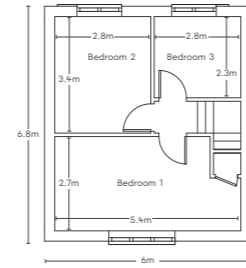
Summary

- + Variants: e, m
- + Historic Equivalent: S3
- + Key Features
 - + Separate front door
 - + 3 bedrooms
 - + Downstairs bathroom
 - + No parlour

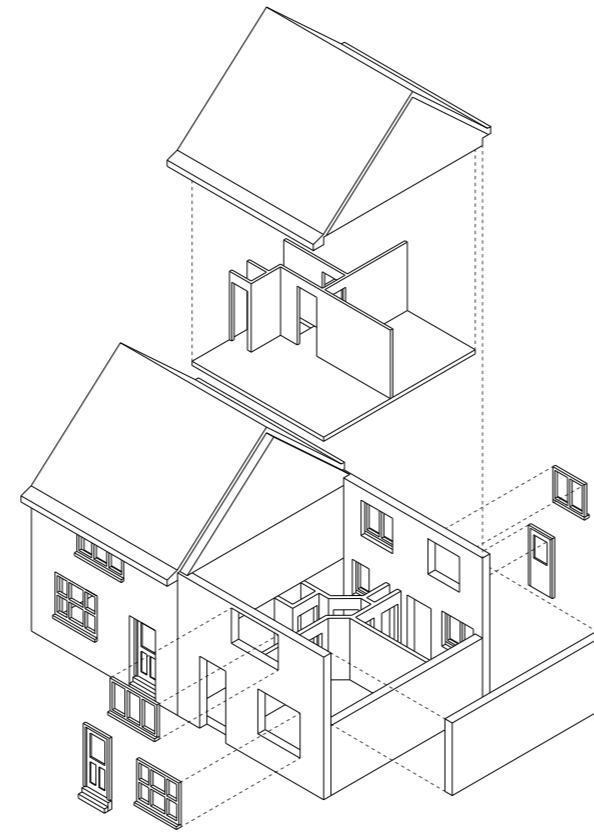
N.B. All measurements approximate. Illustrations prepared using historic planning drawings and current mapping data.



Above: Type A1 Elevation @ 1/15



Above: Type A1 Ground Floor and First Floor Plan @ 1/15
Right: Type A1 Exploded Axon @ 1/15



House Types: Type C

Summary

- + Variants: e, m
- + Historic Equivalent: n/a
- + Key Features
 - + Shared entry porch
 - + 2 bedrooms
 - + Upstairs bathroom
 - + Parlour

N.B. All measurements approximate. Illustrations prepared using historic planning drawings and current mapping data.

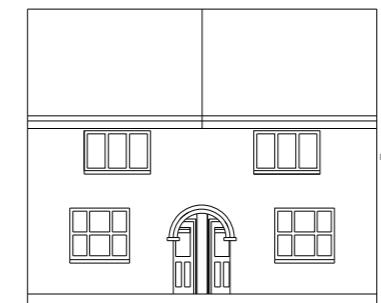


House Types: Type B

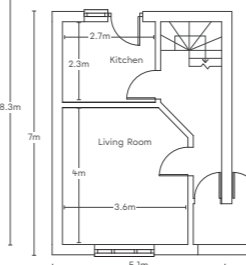
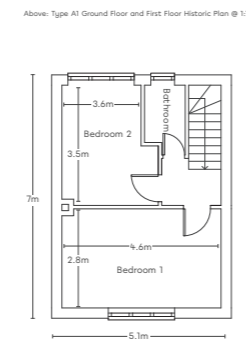
Summary

- + Variants: e, m
- + Historic Equivalent: S4, S2, S14
- + Key Features
 - + Shared entry porch
 - + 2 bedrooms
 - + Upstairs bathroom
 - + No parlour

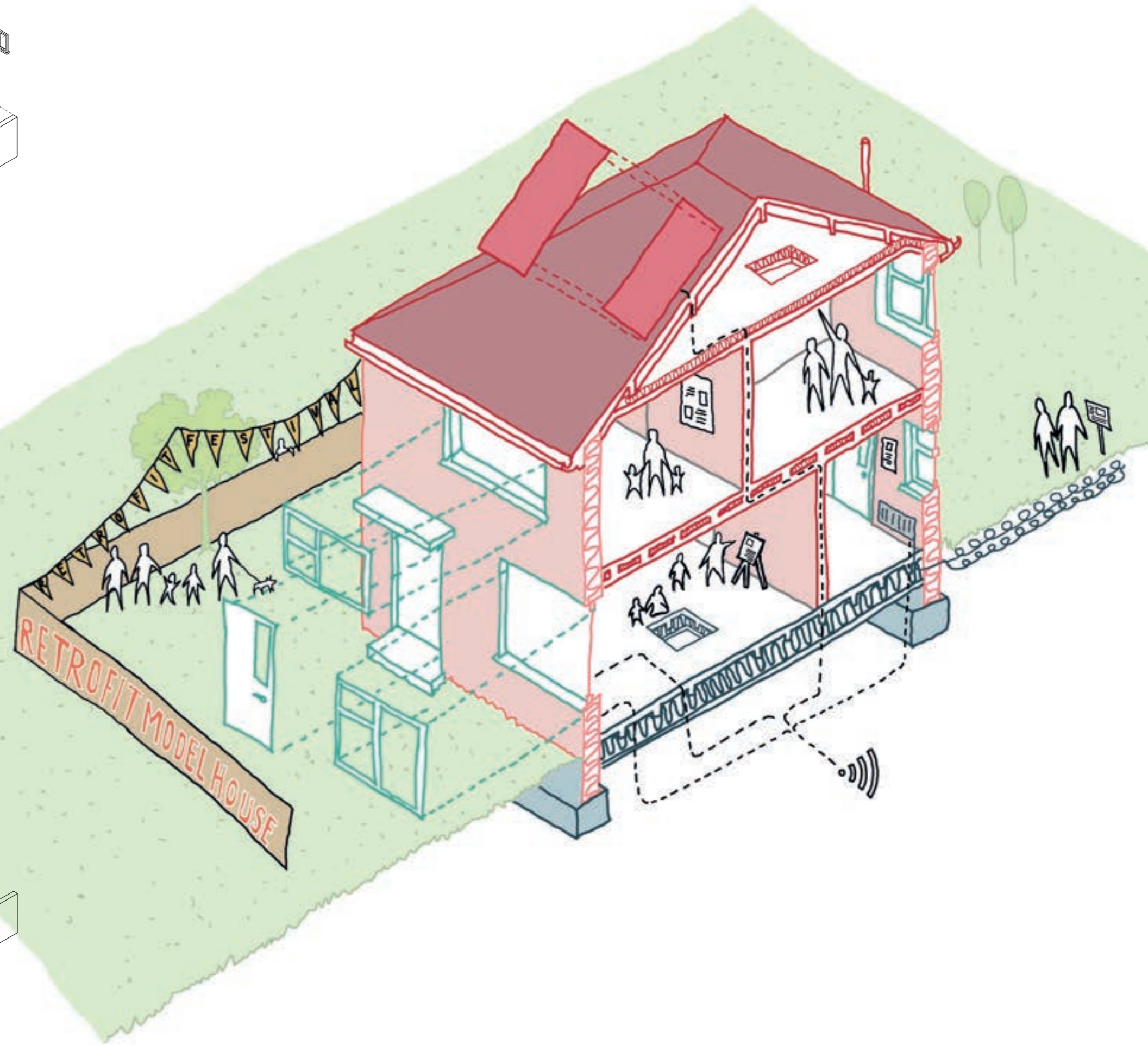
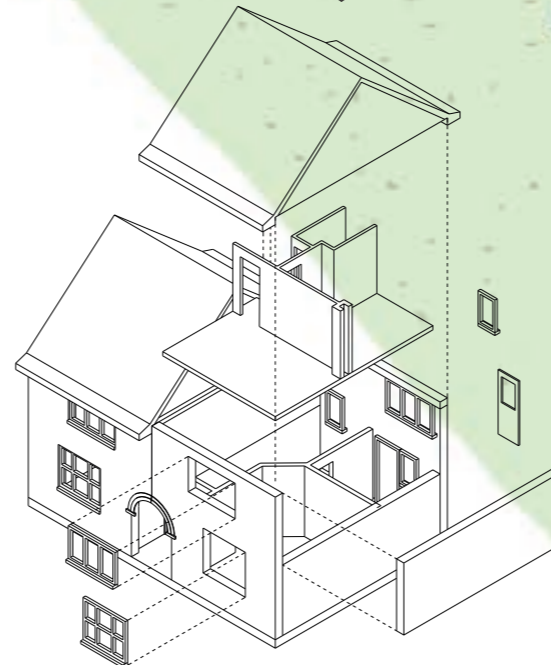
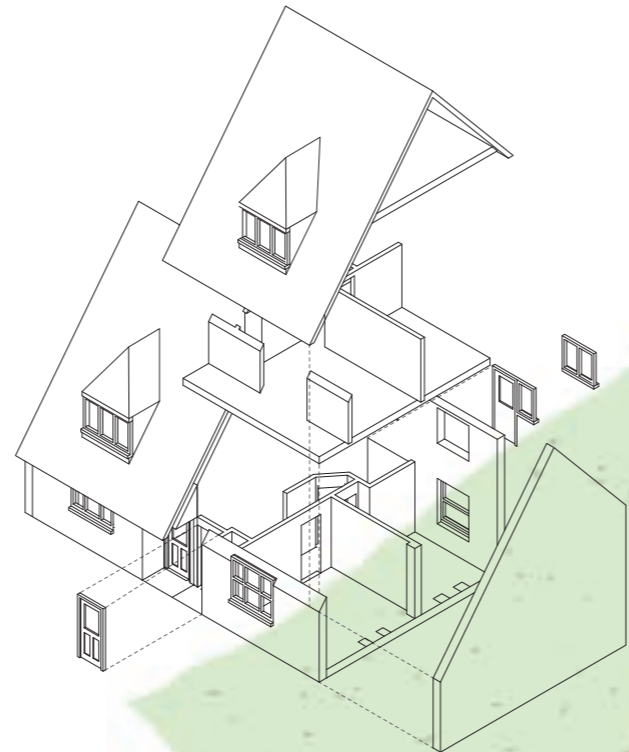
N.B. All measurements approximate. Illustrations prepared using historic planning drawings and current mapping data.



Above: Type B Elevation @ 1/15



Above: Type B Ground Floor and First Floor Plan @ 1/15
Right: Type B Exploded Axon @ 1/15



Becontree Community Heating

Summary Proposals

The evaluation of the current housing stock and their energy performance is being undertaken by comparing EPC bands with actual consumption data.

Benchmarking the data and surveying a pilot home at 7 Lodge Avenue to strategically model it and establish a credible baseline from which to build up staged solutions, with clearly communicated benefits.

Using co-design workshops to establish demographics, priorities and key concerns for the local community, and exploring the co-benefits of energy efficiency measures and their interaction with energy infrastructure.

Learning from successful community-led retrofit schemes such as People Powered Retrofit in Manchester, namely a PAS 2035 aligned process, pragmatic solutions to typical situations, (and approaches to not-so-typical ones), alongside risk assessment and mitigation, and development of scenarios with effectively modelled measures.

Decarbonising heating by lowering demand at source, switching to electricity based heating, and grouping properties for highly localised heat networks where appropriate and feasible is a successful approach to introducing sustainable energy sources at scale.

Decarbonising Energy



Introducing low carbon energy supplies at a neighbourhood scale, and encouraging community engagement and behaviour change.

Retrofitting Homes



Partnered with a fabric first retrofit approach, reducing energy demand while also building behaviour change.

Energy Co-ops



Citizen led co-created approach to energy infrastructure with ground source heat pump shallow arrays, delivering sustainable heating upgrades on a street-by-street, area-by-area basis, rather than house-by-house.

Sustainable Training and upskilling



Upskill local workforce using available training from established online courses and delivering community led solutions to a net zero neighbourhood.

Steps to get there

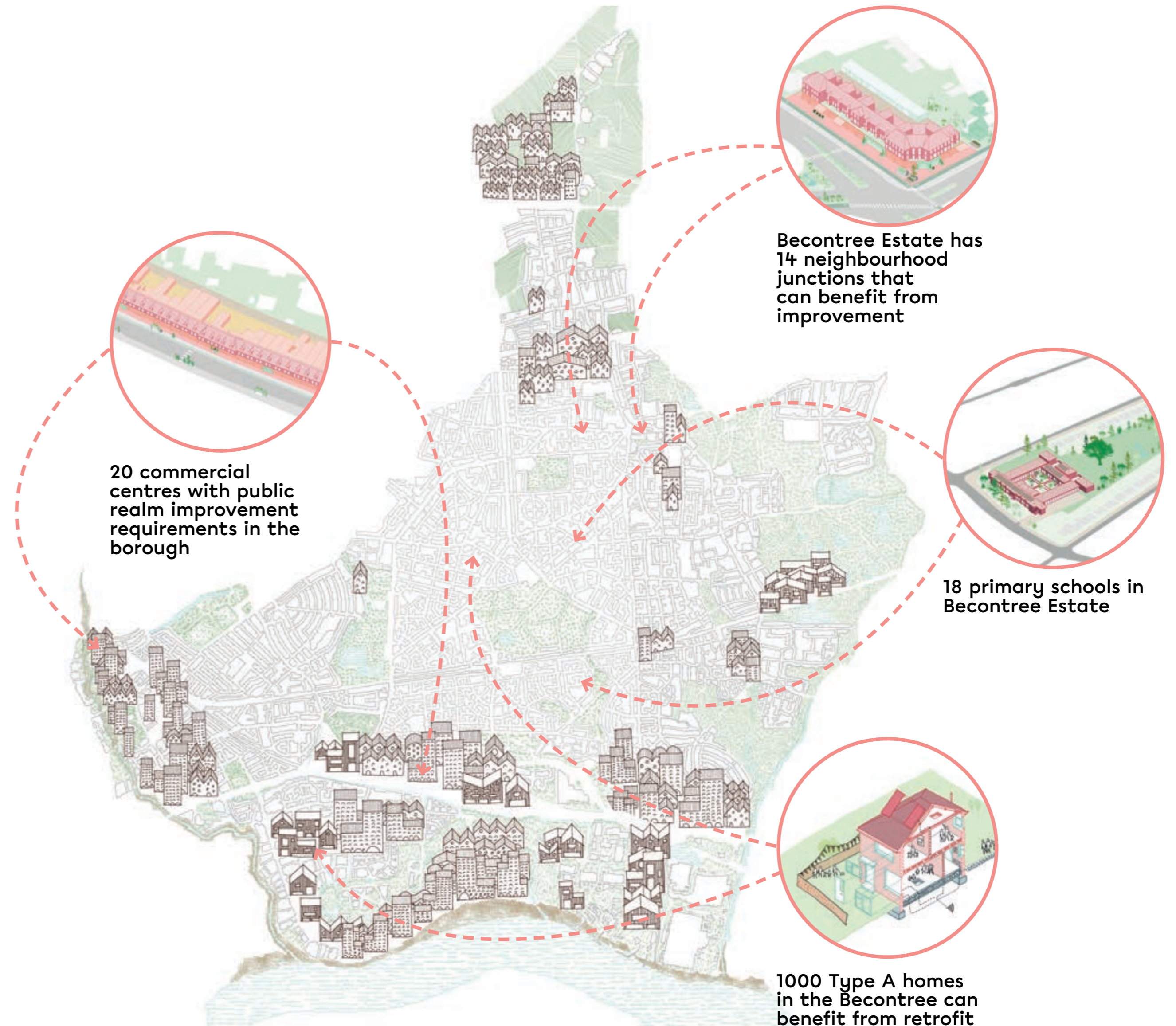
Scaling up

Vision for Scalability

The Becontree Future Neighbourhood programme seeks to maximise the impact of the project across the borough and beyond.

Identifying individual elements within neighbourhoods in the borough provide a variety of options for scaling up, which can deliver greater impact and ensuring there is transformative, long term change.

By monitoring outputs and using the results to inform best practice, the coordination of delivery and review of further projects will capture benefits for the residents of Barking and Dagenham and beyond.



HEARTS AND MINDS, BRICKS AND

